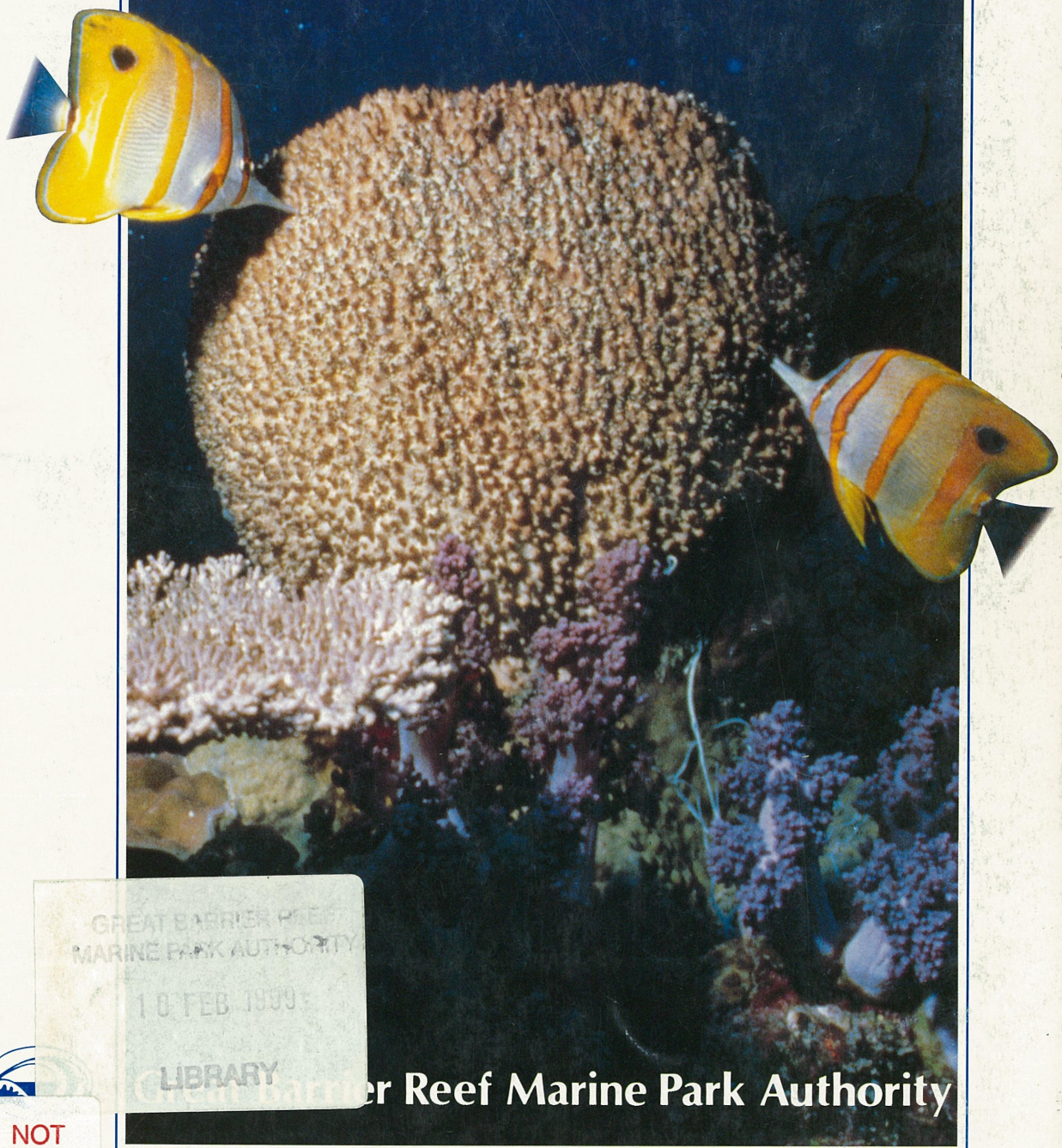
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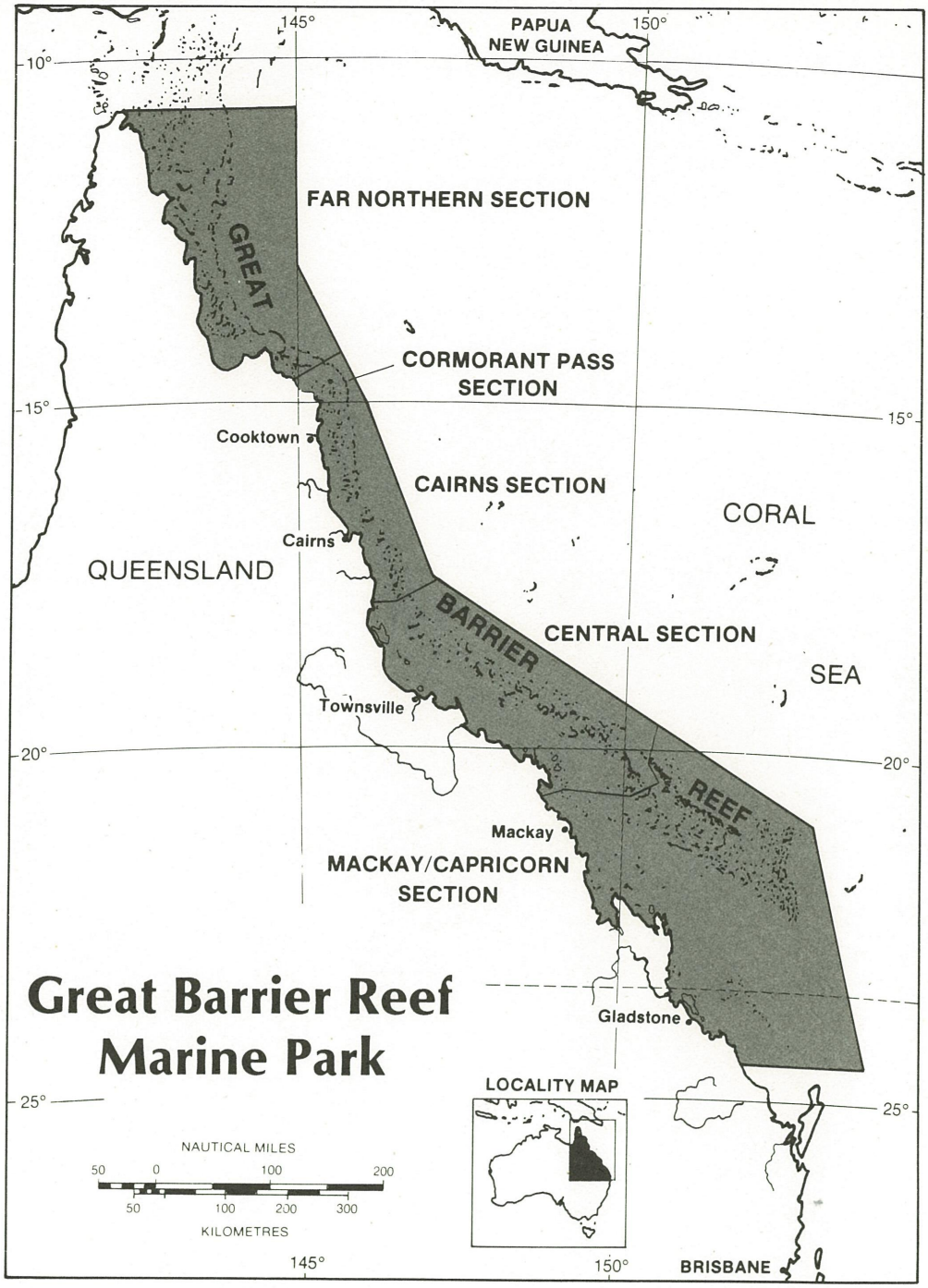
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Great Barrier Reef Marine Park Authority



Great Barrier Reef Marine Park Authority

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Telephone (077) 81 8811

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Marine Park Authority
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Senator the Hon Graham Richardson
Minister for the Arts, Sport, the Environment,
Tourism and Territories
Parliament House
CANBERRA ACT 2600

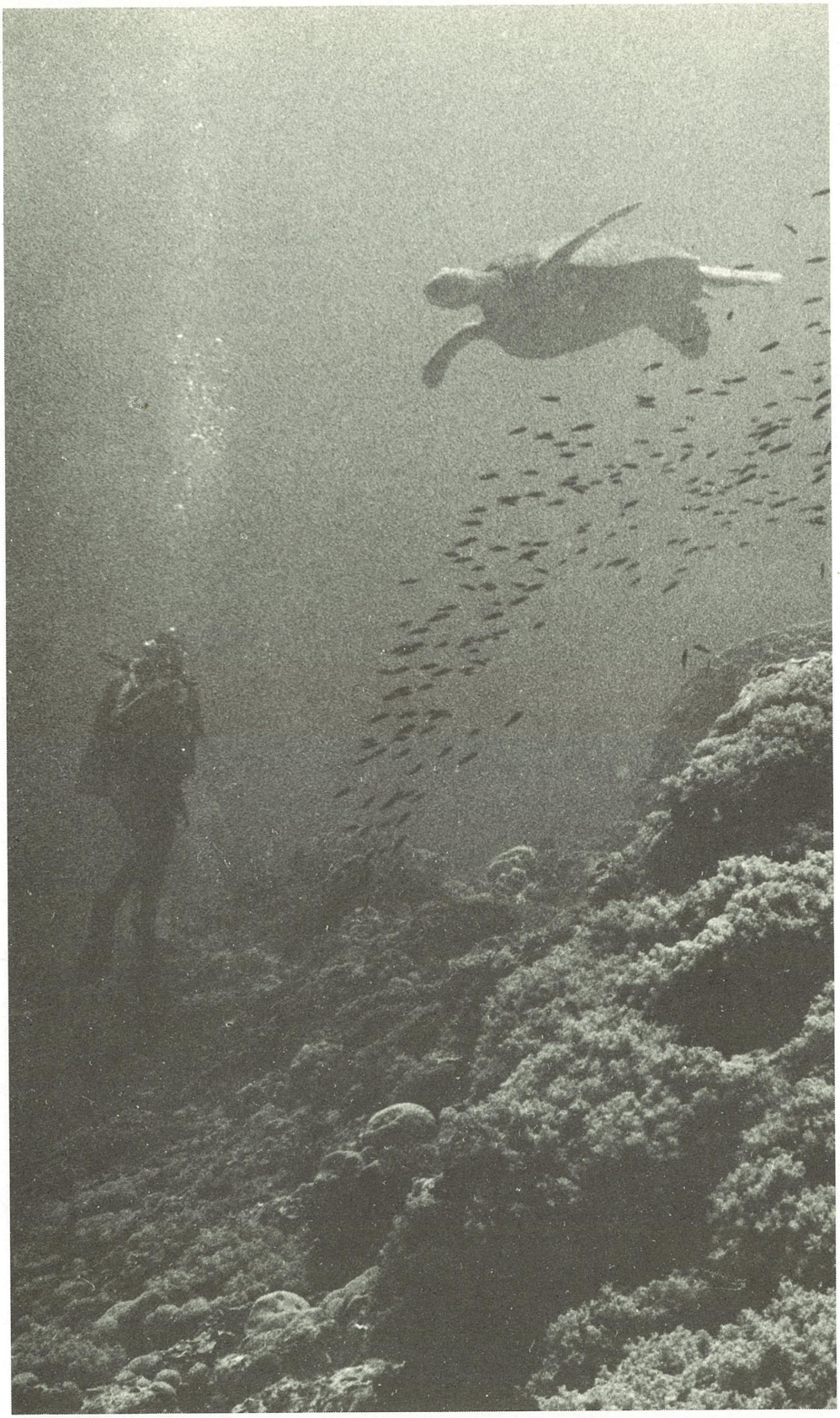
Dear Minister

In accordance with section 63M of the Audit Act 1901, I submit the thirteenth Annual Report of the Great Barrier Reef Marine Park Authority on the operations of the Authority for the year that ended 30 June 1989.

Yours sincerely



Graeme Kelleher
Chairman



This sea turtle and diver must return to the surface when their air supplies get low.
(Photo: Wade Hughes)

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Offshore Developments Map — Inside Back Cover



An anemone fish *(Amphiprion sp.)* rests safely in its home, a large anemone *(Radianthus sp.)*.
(Photo: Wade Hughes)

FROM THE CHAIRMAN

The Authority's greatest ally in protecting the Great Barrier Reef is the increasing public awareness that human activity has the potential to destroy the biosphere on which human life itself depends. This heightened awareness is global. The leaders of nations from around the world have, this year, expressed their commitment to protect the natural environment in words that would have been unthinkable only a decade ago. Our own Prime Minister has expressed such a commitment.

MANAGEMENT

During the year the zoning plan for the last major section of the Marine Park came into effect and day-to-day management was implemented. This section, the Mackay/ Capricorn Section, added 66% to the area of Marine Park which is subject to management. The total area - 344 000 square kilometres - is larger than the combined areas of Victoria and Tasmania. It is by far the world's largest marine protected area and is still seen by the rest of the world as a model to which to aspire. Managing this vast area is a difficult job. Fortunately, the enthusiasm and abilities of the staff of the Authority and of the Queensland Department of Environment and Conservation (Q.DEC)which carries out day-to-day management of the Park for the Authority, are equal to the task. However, management of this area would be impossible without the continued support of the public.

BEREAVEMENT

We were greatly saddened by the deaths during the year of Professor Kevin Stark and Mr Peter Conaty. Kevin had for many years been Chairman of the Great Barrier Reef Consultative Committee and had worked closely with the Authority and with me personally in many technical areas including physical oceanography, computer modelling, systems analysis, engineering design for marine conditions and marine research. Kevin was outstanding in many ways. He had a great ability to deal with complex issues in an integrated fashion, to bring warmth, humour and intelligence to the solutions of conflicts and to create accord out of such conflicts. He contributed uniquely to the Great Barrier Reef Marine Park. Peter Conaty represented the commercial fishing industry on the Consultative Committee. He showed an unusual degree of dedication to that industry and to all those who depended on him. He too contributed to the Marine Park.

NUTRIENTS IN THE MARINE PARK

Research in various parts of the world over the past few decades has shown that corals thrive in what is virtually a nutrient desert. Indeed many species of coral cannot survive when concentrations of nutrients (nitrogen and phosphorus) increase to levels that are still many times lower than those found in drinking water or in the temperate and colder oceans. Recent research in the Great Barrier Reef Aquarium by Authority scientists has confirmed just how low these nutrient levels need to be for some species of coral, particularly the branching corals, to survive. This work, combined with studies on the Reef itself by James Cook University (JCU) ,the

Australian Institute of Marine Science (AIMS) and others, has shown that nutrient levels in some inshore areas of the Great Barrier Reef at times significantly exceed those which have been shown to cause mortality in corals. What are the sources of these nutrients? Some of them are natural (i.e. not a result of human activity). Others are sewage discharges into the sea either directly or via streams. Another is run-off from agricultural areas.

What is being done about it? The Authority is funding a program to determine more precisely the origins and amounts of nutrients that enter the Marine Park. The Institution of Engineers, Australia is working with the Authority and other bodies to raise the consciousness and expertise of the Engineering profession in nutrient management through the running of conferences, workshops and publicity. Since sewage treatment is invariably designed by Engineers, this is an efficient way of achieving voluntary reduction in nutrient releases from tourism and other developments. Already, the Authority is receiving proposals for tourism developments which include tertiary treatment of sewage (i.e. removal of nitrogen and phosphorus). The public awareness mentioned above, is manifest in the activities of many sectors of the community. The National Farmers' Federation is working with conservation organisations and Government in a variety of programs aimed at protecting Australia's natural resources. It is not in a farmer's interest for expensive fertilisers to be washed off the land into the rivers and the sea. Over the past decade there has been a reduction in the rate of application of fertilisers in many parts of Australia combined with more sophisticated application so that the amount of fertilisers that is lost to the sea is likely to be progressively reduced. I believe that this trend will continue and that, as awareness of the facts about the sources of nutrients in the Great Barrier Reef is increased through scientific study and publication of its results, the various sectors of the community which contribute to the production of those nutrients will voluntarily take action to reduce the amount that is wasted to the sea.

MONITORING OF THE REEF

A small group of concerned individuals has undertaken to provide financial assistance to the Authority to help monitor the condition of the Great Barrier Reef, particularly in relation to water quality. This group is called the Reef Monitoring Trust. They have already provided funds to allow the Authority to conduct an expert workshop on the establishment of a comprehensive monitoring program for the Marine Park. Their actions illustrate the sense of community responsibility on which the protection of the Great Barrier Reef ultimately depends.

CROWN OF THORNS STARFISH

The saga continues. During the year, the Authority was accused of understating the seriousness of the crown of thorns problem and of incompetence and lack of care in its management of research into the phenomenon. An independent inquiry was established at the direction of the Minister for the Arts, Sport, the Environment, Tourism and Territories, Senator the Hon Graham Richardson, MP. It was carried out by the Challis Professor of Biology at Sydney University, Professor Don Anderson, AO. It vindicated the Authority in relation to its consideration and statements
about the crown of thorns starfish, its policy of limiting control of starfish populations to local areas of importance to science or tourism and in its management of the crown of thorns starfish research program.
Professor Anderson recommended that the research program should be continued for at least three years involving an expenditure of at least $1m per annum and that

the Authority should be responsible for close coordination of that program. As a consequence of Professor Anderson's recommendations the Authority has established the Crown of Thorns Starfish Research Committee (COTSREC) which will advise the Authority on all aspects of the program. (On 20 July 1989, the Minister announced additional funding for the program in line with Professor Anderson's recommendations).

It would be naive to expect criticism of the Authority on this subject to abate. Our experience has been that, regardless of what the Authority does in relation to this issue and how hard we try to keep the public informed about the results of scientific research and the current state of the phenomenon, we are accused by a few vocal scientists and others of misleading the public and the Government and of bad faith.

TOURISM

Everyone is aware of the very rapid rate of increase in tourism in Queensland in the past few years, peaking in World Expo 88. While that rate of increase diminished during the year, pressures for development in the Marine Park have reached a stage where it is necessary to develop a strategy to manage tourism development on the Great Barrier Reef. The need for such a strategy was unanimously agreed to at a major workshop held by the Authority in July 1988 involving all sectors of the community concerned with the use of the Marine Park.

We are incorporating such a strategy in the review of the Cairns Section Zoning Plan. The strategy will ensure that a large proportion of the Marine Park will remain free from large man-made structures, while providing areas specifically suited for such developments.

In accordance with the Authority's program of reviewing the zoning of sections of the Marine Park every five years or so to take account of changing circumstances and increasing knowledge of the Reef ecosystem, the tourism strategy will be extended progressively to other sections of the Marine Park.

In June 1989 the Barrier Reef Resort floating hotel was removed from John Brewer Reef, bound for Ho Chi Minh City in Vietnam. This Hotel was not an economic success but it did demonstrate that it is feasible to install and operate such structures on the Reef without significant adverse environmental effects. Monitoring of the site will continue at the developer's expense, so as to determine accurately the overall physical and biological effects of the project.

There is a proposal to install a floating hotel on Fitzroy Reef in the Mackay/Capricorn Section of the Marine Park. This proposal has received a permit from the Authority and, if it goes ahead, it will be closely monitored to determine its environmental effects. On the Authority's recommendation, in February this year, Senator Richardson and the Queensland Minister for Environment, Conservation and Forestry, the Hon Geoff Muntz, MLA, jointly announced a two-year moratorium on any further floating hotels in the Marine Park.

AWARDS

During the year the Authority received a number of awards. Great Barrier Reef Wonderland, which was conceived by the Authority, won the Tourist Attraction of the Year Award in Queensland and was runner up to Sydney's Powerhouse Museum in the National Tourism Awards. This was very gratifying, particularly because the Aquarium, which is a major part of the Wonderland complex, was designed explicitly as an educational facility to assist the Authority in management of the Great Barrier Reef Marine Park. The Authority's video production, Reef Report, won

both the Queensland and National Tourism Awards as the best Electronic Media production. The Authority received the Award of Excellence for achievement and originality in planning and design from the Royal Australian Planning Institute, Queensland Division, for the zoning plan for the Mackay/Capricorn Section of the Marine Park. As well, the Authority and staff received five awards from the Society of Business Communicators for educational and awareness publications and programs.

I am very proud of the many members of the Authority's staff who contributed to the attainment of excellence as recognised in these awards. Many other members of the staff carried out work of equal excellence in areas in which no awards are given or in ways which tend to be less visible. I recognise their contribution with equal pride.

This year, Dr Joe Baker OBE and Sir Sydney Schubert left the Authority. Joe was a founding member and attended every meeting of the Authority (more than 100) during his terms. He bought scientific knowledge, integrity, determination and great loyality to the 3 - member body. Sir Sydney was a member since 1978. He bought great experience in government, outstanding judgement and the ability to focus on strategic issues. Much of what has been achieved in the Great Barrier Marine Park is due to the personal qualities and efforts of these two men. I count myself fortunate to have worked with them.

GREAT BARRIER REEF MARINE PARK AUTHORITY

The Great Barrier Reef Marine Park Authority, which was established under the *Great Barrier Reef Marine Park Act 1975,* is a Commonwealth statutory body consisting of a full-time Chairman and two part-time members, one of whom is nominated by the Queensland Government. The first appointments to the Authority were made in July 1976 and the Authority's first meeting was held in August that year.

ROLE

The Authority is the principal adviser to the Commonwealth Government on the care and development of the Great Barrier Reef Marine Park. Specific functions defined in sections 7 and 7A of the Act are listed in Appendix A.

The Authority has adopted a statement of its goal and aims which has been derived from, and is consistent with, the object of and the functions and powers specified in the Act.

GOAL

To provide for the protection, wise use, understanding and enjoyment of the Great Barrier Reef in perpetuity through the care and development of the Great Barrier Reef Marine Park.

AIMS

These aims are subordinate to the primary goal and must be read in conjunction with it and with each other.

- To protect the natural qualities of the Reef, whilst providing for reasonable use of the Reef's resources.
- To involve the community meaningfully in the care and development of the Marine Park.
- To achieve competence and fairness in the care and development of the Marine Park through the conduct of research, and the deliberate acquisition, use and dissemination of relevant information from research and other sources.
- To minimise regulation of, and interference in, human activities, consistent with meeting the goal and other aims of the Authority.
- To achieve management of the Marine Park primarily through the community's understanding and acceptance of the provisions of zoning, regulations and management practices.
- To minimise costs of caring for and developing the Marine Park consistent with meeting the goal and other aims of the Authority.
- To provide for economic development consistent with meeting the goal and other aims of the Authority.

- To adapt the Marine Park and the operations of the Authority to changing circumstances.

MEMBERSHIP AS AT 30 JUNE 1989

The full-time Chairman (and chief executive) of the Authority is **Mr Graeme Kelleher, AM,** who was reappointed for his second five-year term on 20 December 1984. Mr Kelleher has had extensive experience in activities concerned with the environment. He was one of the three commissioners on the Ranger Uranium Environmental Inquiry and served as an examiner of New Zealand's environment policies for the International Organisation for Economic Co-operation and Development (OECD).He is President of the Australian Committee for IUCN, the World Conservation Union, and is Vice-Chairman, Marine, of IUCN's Commission on National Parks and Protected Areas (CNPPA).

For part of the year ,Mr Kelleher was granted leave of absence. Dr Don Kinsey was appointed by the Minister on 23 November 1988 to act as Chairman for the period of leave,which ceased on 8 January1989.

Mr Pat Smith was appointed by the Minister as acting part-time member, with effect from 16 January 1989 for a period of one year. He is Deputy Under-Secretary of the Queensland Department of Environment and Conservation. Prior to the appointment he was a member of the Queensland Premier's Department, where he was involved in the Marine Park Authority in its formative years.

Mr Smith is the Queensland nominee who replaces Sir Sydney Schubert.

Professor Rhondda Jones was appointed initially as acting part-time member for a period of one month with effect from 20 January 1989. She was subsequently appointed by the Governor-General, on 22 February 1989, for a 3-year term. Professor Jones, an ecologist with research interests in population dynamics, is Professor of Zoology in the School of Biological Sciences at the James Cook University of North Queensland.

Professor Jones's appointment followed the conclusion of the part-time membership of Dr Joe Baker, OBE, on 31 December 1988.



From left to right Mr Graeme Kelleher, AM, Professor Rhondda Jones and Mr Pat Smith

MEETINGS

During 1988-89, the Authority held the following meetings:

1988		1989	
DATE	LOCATION	DATE	LOCATION
20 July	Magnetic Island.	25 January	Townsville
7 September	Brisbane	28 February	Townsville
24 October	Townsville	28 April	Townsville
13 and 16 December	Townsville	15 June	Townsville

During the course of these meetings the Authority proceeded with its review of the Zoning Plans for the Cairns and the Cormorant Pass Sections. Following the incorporation of the Queensland National Parks and Wildlife Service into the new Queensland Department of Environment and Conservation (as the Division of Conservation, Parks and Wildlife), the Authority resumed its close working relationship with the Queensland Government through that Department.

THE MINISTER

During the year under review, **Senator the Honourable Graham Richardson,** Minister for the Arts, Sport, the Environment, Tourism and Territories has had portfolio responsibilities for the Great Barrier Reef Marine Park Authority.

The Minister convened one meeting of the Great Barrier Reef Ministerial Council, held on Orpheus Island in the Central Section of the Great Barrier Reef Marine Park in April 1989.

In December 1988 the Minister announced the appointment of Professor Don Anderson to conduct a review of the current state of scientific knowledge on the crown of thorns starfish and research being coordinated by the Authority, and to assess the Authority's starfish control policy. The Minister stated that the review would assist him in assessing current policies relating to management problems on the Great Barrier Reef posed by the starfish. Professor Anderson concluded that the Authority's starfish control policy of limiting direct intervention to areas of special interest is soundly based.

He commended the research done to date as both efficient and productive and recommended further research.

The Act provides that the Authority'*shall perform its functions in accordance with any general directions given by the Minister not inconsistent with this Act.'*

Following concern expressed by the Government at the possible adverse effects that floating hotels may have on the Marine Park, including their potentially deleterious environmental and socioeconomic impact, and upon existingand desirable use and amenity of the Marine Park, the Minister gave the Authority the following directions:

(a) in performing its functions under the Act, the Authority shall pay full regard to both the concern and the policy of the Government to introduce, with effect from 15 February 1989, a two-year moratorium on further floating hotel developments in the Great Barrier Reef Marine Park. The moratorium does not apply to the proposed development on Fitzroy Reef.

It is further the policy of the Government that, during the period of the moratorium, a proper assessment should be made of the effects on and in

relation to the Marine Park ofthe existing floating hotels;

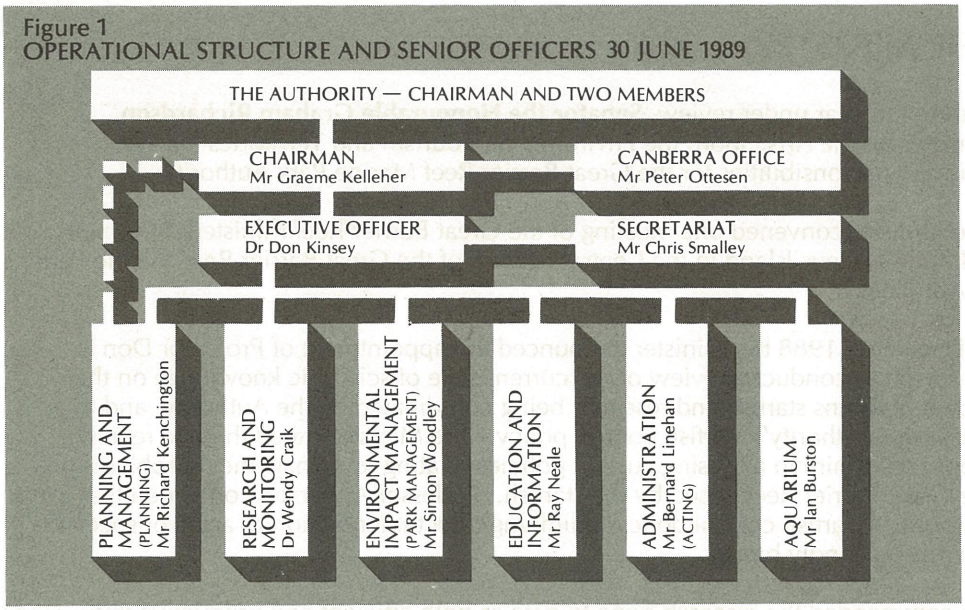
(b) the Authority shall notify the Minister having the administration of the *Great Barrier Reef Marine Park Act 1975* of any application for a permission made to it in respect of a floating hotel development - it shall provide the Minister with full details of any such application, and of the supporting material relevant to the concern of the Governments as set out above; and

(c) the Authority be in receipt of the views of the Minister before making a decision in respect of any application of a kind described in (b) above.

OFFICE OF THE AUTHORITY

The Authority has an office in Townsville and a small office in Canberra. This arrangement arises from the need for the Authority to have its principal technical resources close to the Reef and also to carry out essential functions in Canberra.

Figure 1
OPERATIONAL STRUCTURE AND SENIOR OFFICERS 30 JUNE 1989



The Townsville office,which includes the Great Barrier Reef Aquarium, has an average staffing level of 84 and carries out most of the Authority's operational activities. The actual staffing level at 30 June 1989 was 86, including four inoperative staff on leave with pay. The Townsville office is located in the Great Barrier Reef Wonderland complex.

The Canberra office provides administrative support to the Chairman and the secretariat for the Great Barrier Reef Ministerial Council, advises the Minister, liaises with the Department of the Arts, Sport, the Environment, Tourism and Territories, Parliamentary Committees and with other Canberra - based Departments and organisations with interests in the Marine Park, and assists in the development and communication of policy advice. The actual staffing level at 30 June was 6.

Executive Officer

Dr Don Kinsey is the Executive Officer of the Great Barrier Reef Marine Park Authority. He is responsible to the Chairman for the efficient operation of the Townsville office. He is also Secretary to the three-member Great Barrier Reef Marine Park Authority. Staff of Secretariat support him in this role.

GREAT BARRIER REEF MINISTERIAL COUNCIL

The Great Barrier Reef Ministerial Council was established in June 1979 to coordinate policy on the Reef between the Commonwealth and Queensland Governments at Ministerial level. The Council comprises four Ministers, two from each Government.

The Canberra office of the Authority provides the secretariat for the Ministerial Council. Costs of meetings are shared by each Government.

The fourteenth meeting of the Council took place at the Orpheus Island Resort, in the Central Section of the Great Barrier Reef Marine Park, 26 and 27 April 1989.

Ministers who attended the meeting were:

- The Hon Graham Richardson, Minister for the Arts, Sport, the Environment, Tourism and Territories (Convenor)
- The Hon Margaret Reynolds, Minister for Local Government and Minister assisting the Prime Minister for the Status of Women
- The Hon Geoff Muntz, MLA, Queensland Minister for Environment, Conservation and Forestry
- The Hon Neville Harper, MLA, Minister for Primary Industries.

At the meeting, Council:

- endorsed the Three Year Rolling Program 1989-90 to 1991-92. This program provides for the day-to-day management by the Queensland Government of the entire Great Barrier Reef Marine Park, and Queensland Marine Parks and island National Parks that are adjacent to the Marine Park boundaries.
- noted a joint management plan for Lady Musgrave Island and Reef, an area that comprises both Queensland and Commonwealth territory.
- noted that tourism is now the largest activity in the Marine Park with developments occurring both offshore and onshore, adjacent to the Marine Park. It was estimated that tourism was at 2.1 million visitor days per year, and increasing at 10% per year. For some areas such as Cairns, the increase was 30% per year. Tourism developments and activities have the potential to impact significantly on the Marine Park and they are also straining the resources available for management.
- noted that suitable sites for offshore structures may be limited and that attention is being directed towards ensuring that the design, construction and location of offshore structures meet acceptable standards for safety and environmental protection.

- noted that Commonwealth and Queensland agencies are developing complementary environmental impact assessment procedures for tourist development activities onshore, such as marina facilities. Council also noted that this cooperative approach would help to speed the assessment processes and eliminate duplication.

- noted the progress of the five-year review of the Cairns and Cormorant Pass Sections and were pleased with the level of public involvement and comment on existing management and how it might be improved.

- considered the report on crown of thorns starfish research and noted progress to date and in particular the review by Professor Don Anderson of Sydney University which commended the Authority for the way it has handled the program. The Commonwealth has provided in excess of $3m for research since 1985-86 and Council noted that Senator Richardson would be seeking funds for continued research.

- endorsed the introduction of permit assessment fees for commercial operators, except for commercial fishermen and others who do not require a Marine Park permit. These fees were expected to begin during the 1989-90 financial year. Council also noted that the Authority would continue to investigate a concessions/tendering system for commercial operators who want exclusive use of a site, or where the number of operators is limited. This investigation would be undertaken in consultation with commercial operators and government authorities. The revenue from charging would offset the costs incurred in permit assessment and also contribute towards the increase in costs of managing the Marine Park, thus helping to ensure the continued health of the Reef that is the basis of the tourism and fishing industries.

- noted that the Authority is giving a high priority to research into the possibility of significant deterioration in water quality in the Marine Park from increasing high levels of nutrients and sediments . Council endorsed the continued cooperation and coordination of research, and development of standards by the Authority and Queensland Government agencies, and Local Government.

Ministers also inspected tourist, mariculture and industrial activities in and adjacent to the Marine Park near Townsville.

GREAT BARRIER REEF CONSULTATIVE COMMITEE

The Great Barrier Reef Consultative Committee was established by the *Great Barrier Reef Marine Park Act 1975* as an independent advisory body for both the Minister and the Authority. Specific functions defined in section 21 of the Act are listed in Appendix B.

The Consultative Committee represents a wide cross-section of interests in the Great Barrier Reef, from both the public and private sectors, including tourism, fishing, science and conservation. The Committee consists of members appointed by the Minister for a three-year term and a member of the Authority appointed by the Authority for an indefinite term. Appointments by the Minister in 1985 concluded on 3 October 1988. The Minister made new appointments in July 1989. The membership at July 1989 is listed in Appendix G.

MEMBERSHIP 1 JULY TO 3 OCTOBER 1988

Professor Kevin Stark (Chairman)
James Cook University of North Queensland

Mr Peter Conaty
Queensland Commercial Fishermen's State Council

Mr Paul Eccles
Commonwealth Department of Transport and Communications

Mr Eddie Hegerl
Australian Littoral Society and Queensland Conservation Council

Dr Tor Hundloe
Australian Conservation Foundation

Mr Graeme Kelleher, AM
Great Barrier Reef Marine Park Authority

Mr Gordon McKauge
Far North Queensland Promotions Bureau Tourism Task Force

Mr Andre Maestracci, MBE
South Molle and Hook Island Enterprises

Dr Helene Marsh
James Cook University of North Queensland

Mr Jim Miller
Queensland Department of Primary Industries

Mr Keith Nielson
Commonwealth Department of the Arts, Sport, the Environment, Tourism and Territories

Dr Peter Saenger
Australian Underwater Federation and Queensland Amateur Fishing Council

Mr Leon Wruck
Heron Island Pty Ltd

Mr Conaty died in January 1989. Professor Stark died in April 1989.

Staff of the Authority's Secretariat provide administrative support for the Consultative Committee. Mr Chris Smalley is Secretary.

MEETINGS

The Consultative Committee met once in 1988, in Townsville, prior to the workshop, organised by the Authority, on Innovative Ways of Planning and Management of the Great Barrier Reef Marine Park, held 20 and 21 July. The Committee, as a body, had been invited to take part in the workshop.

At its meeting, the Committee furthered its deliberations on the Authority's request for advice on:
'Perceptions as to the problems that may be associated with rapid tourism development in relation to the Marine Park and how such problems might be overcome'.
This advice was presented as one of the two workshop papers prepared by the Committee.

PLANNING AND MANAGEMENT

The Planning and Management Section has resulted from the restructuring of the Planning Section and the Park Management Section. As the name suggests, the functions of the Planning Section have been retained, with the addition of functions of the Park Management Section, other than those that deal with environmental impact and permit assessments. The Financial Statement (Appendix I) show the previous Section name `Planning' for comparative purposes.

The Planning and Management Section has two main aims. One is to provide for the protection, wise use, understanding and enjoyment of the Great Barrier Reef in perpetuity by recommending the declaration of sections of the Marine Park and by developing and reviewing zoning plans, regulations and other management strategies. Involving the public meaningfully in these processes is an integral part of the planning approach. The other aim is to follow through with cost-effective implementation of zoning plans, regulations and other management strategies, working in conjunction with the Queensland Government and other agencies.

The Planning and Management objectives for 1988-89 were to:

- review the Cairns and Cormorant Pass Sections Zoning Plans
- implement the Mackay/Capricorn Zoning Plan
- run the workshop on innovative and alternative approaches to planning and management
- develop a tourism strategy for the Cairns area
- revise the aerial surveillance program
- arrange for 'networking' of computer hardware and development of databases
- implement and oversight Marine Park management programs
- prepare Marine Park programs for 1989-90 to 1991-92.

PERFORMANCE INFORMATION

Efficiency is defined as:

> the development of products, such as zoning plans, with minimal expenditure of funds and time as measured by cost per Reef user and cost per unit area of the Marine Park

the extent to which day-to-day management infrastructure is established and its cost, as measured by implementation of annual objectives and average cost per Reef user.

All annual objectives were achieved. Review of the Cairns Section Zoning Plan is proceeding on schedule and day-to-day management of the Mackay/Capricorn Section has been established within tight funding constraints.

Effectiveness is defined in terms of:

the acceptance of draft zoning plans as expressed in representations received during the second and final stage of public participation and in broader surveys taken at intervals

the extent of community understanding and acceptance of the provisions of zoning, regulations and management practices assessed from day-to-day management data and surveys, and

the protection of the Great Barrier Reef as measured by formal and informal monitoring programs.

Objective assessment of this latter criterion is more difficult. There was no draft zoning plan or a major survey of Reef users during the year. Biological monitoring programs are addressed elsewhere. Plans for a more effective aerial surveillance program were prepared during the year and will offer higher quality data on Reef use and more reliable enforcement, beginning next financial year.

INTRODUCTION OF THE MACKAY/CAPRICORN SECTION ZONING PLAN

The Zoning Plan for this section came into effect on 1 August 1988, following the unopposed passage of the Plan through both Houses of Federal Parliament. Mackay/Capricorn is the last section of the Marine Park to be covered by a zoning plan and it absorbs the former Capricornia Section, the first section to be zoned. Complementary management for the adjacent Queensland Marine Parks was introduced at the same time.

A number of issues were addressed in development of the Plan. These were protection of seagrass beds, provision for developmental trawling in the Swain Reefs and split zoning of reefs in the Capricorn/Bunker Group to allow separate areas for fishing and nature appreciation adjacent to islands used for camping.

REVIEW OF THE CAIRNS SECTION ZONING PLAN

The Authority is committed to the review of each zoning plan after it has been in operation for approximately five years. Since the development of the initial zoning plan for the Cairns Section in 1982-83, major changes have occurred in the use of the Marine Park, particularly relating to tourism in the Cairns and Port Douglas arera.

The review of the Cairns Section Zoning Plan commenced in August 1988 with the collation of updated information on the resources of the Section and relevant research. The first phase of public participation was run from November 1988 to February 1989 inclusive. Considerable TV and press coverage gave wide publicity to the zoning review, and to the availability of the mail-back brochure 'Reviewing the Zoning Plan - Cairns', and the 'Issues' booklet which outlined the main issues in the review and provided basic resource information.

Opinions expressed in the 278 written representations that were received spanned a diverse range. Within these representations, 81 separate topics were raised, the most common being zoning, day-to-day management, recreational fishing, diving, offshore developments, spearfishing and the proposed tourism strategy. The views expressed in the representations, as well as in information collated during the six years of operation of the existing plan, were taken into account in the preparation of the Proposed Zoning Plan.

Planning staff were also involved in numerous consultations and meetings with Park user groups, individuals and relevant government agencies to gather further information and to take their views and needs into account.

During the review it became clear to the Authority that a tourism strategy was needed to provide for the continued growth in tourism, to manage conflicts and to ensure that a range of tourism experiences continues to be available in the Marine Park. The 'No Structures Subzone' within the Proposed Zoning Plan addresses the recognised need for controls on tourist operations. The objective of the subzone is to provide some areas for appreciation and enjoyment by the public, free from infrastructure or facilities except for approved moorings and navigational markers.

RESOURCES

The whole Marine Park is now under day-to-day management and although the area managed has increased rapidly since the Park was created, the rate of increase in funding has fallen behind. The ability of the Authority to provide adequate management under these circumstances is cause for continuing concern.

Table 1 shows day - to - day management funding for zoned sections of the Park since the Capricornia Section Zoning Plan came into effect in 1981.

TABLE 1
GROWTH IN FUNDING FOR DAY-TO-DAY MANAGEMENT OF THE MARINE PARK
(adjusted to 1988/89 dollar value)

Year	Total Cost $	Total Area km2	Unit Cost $/km2
1981-82	258 460	12 000	21.53
1982-83	571 167	12 000	46.60
1983-84	1 164 985	47 000	24.79
1984-85	1 962 768	47 000	41.76
1985-86	2 366 789	130 000	18.21
1986-87	2 909 040	130 000	23.38
1987-88	3 459 854	207 000	16.7
1988-89	4 199 000	344 000	12.21
1989-90 estimate	5 132 000	344 000	14.92

Table 2 shows details of the 1988-89 expenditure on day-to-day management and the funding approved for 1989-90. Table 3 outlines how these costs are shared between Queensland and the Commonwealth.

Since the whole Park came under day-to-day management, staff resources in the Authority and the Division of Conservation Parks and Wildlife, Queensland Department of the Environment and Conservation (Q.DEC) have been very thinly spread. Vast areas of the Park receive little or no surface management, particularly in the Far Northern Section, because resources must be concentrated in areas of high intensity use.

TABLE 2
EXPENDITURE BY SECTION FOR DAY-TO-DAY MANAGEMENT

	1988-89	1989-90 (Estimated)
Cairns/Far Northern Sections		
Salaries & Operating	**1 189 000**	1 239 000
Capital (Incl. Post Initial)	**143 000**	328 000
Central Section		
Salaries & Operating	**1 067 000**	1 461 000
Capital (Incl. Post Initial)	**389 000**	295 000
Mackay/Capricorn Section		
Salaries & Operating	**1 166 000**	1 386 000
Capital (Incl. Post Initial)	**245 000**	353 000
All Sections		
Salaries & Operating	**3 422 000**	4156 000
Capital (Incl. Post Initial)	**777 000**	976 000
TOTAL	**4 199 000**	5 132 000

TABLE 3
COST SHARING FOR DAY-TO-DAY MANAGEMENT

	1988-89	1989-90 (Estimated)
Queensland		
Salaries and Operating	**1 711 000**	2 078 000
Post-Initial Capital	**144 000**	200 500
Total	**1 855 000**	2 278 500
Commonwealth		
Salaries and Operating	**1 711 000**	2 078 000
Post-Initial Capital	**144 000**	200 500
Initial Capital	**489 000**	575 000
Total	**2 344 000**	2 853 500
TOTAL	**4 199 000**	5 132 000

Prosecutions

Repeated or gross infringements of the provisions of Zoning Plans are prosecuted. Basic statistics appear below.

	Mackay/ Capricorn	Central	Cairns/ Far Northern	Total
Prosecutions	5	-	2	7
Convictions	5	-	2	-
Fines ($) (total)	4149	-	1400	5549

REEF AND ISLAND USE PLANS

Specific management plans are needed for sites which are particularly sensitive to human impact or are heavily used. These plans give detailed prescriptions for the control of visitor use to ensure the attractive features of a site are not compromised. Such plans are in effect for Michaelmas Cay and Reef and Lady Musgrave Island and Reef, developed in collaboration with Q.DEC. Plans for Green Island and Reef, Low Isles and Reef, Beaver Cay and Reef and Credlin and Bait Reefs are in various stages of completion. The Authority is also contributing to a plan being prepared by the Townsville City Council for Magnetic Island.

INNOVATIVE PLANNING WORKSHOP

For the first time, in 1988-89 zoning plans have covered the whole Park and also ten years have passed since the first zoning plan came into effect. The conclusion of this phase of management offered an opportunity for the Authority, the Consultative Committee, Park user groups and researchers to review management issues in a workshop forum.

The Workshop, held on Magnetic Island off Townsville from 20 to 22 July, was organised on the basis of group discussion of questions designed to focus on specific management issues. Deliberately structured to avoid the formal approach of voting on resolutions , but rather to explore mutual concerns, the workshop was designed to promote understanding and achieve consensus.

Principles of management applied to the Marine Park were endorsed by the Workshop. In particular, zoning plans were recognised as the most appropriate means of achieving long term conservation while providing for reasonable use of the Park's resources. The level of public involvement in the planning and management of the Park was also supported.

Other issues discussed were:

. the need for a strategy to address growth in demand for Reef tourism

. the need for a tourism consultative group*

. enforcement of Marine Park Regulations

. effective public education

. research to address a range of specific management issues.

*The Association of Marine Park Tourism Operators (AMPTO) was subsequently set up under the chairmanship of MrAndreMaestracci, MBE. The Association has already played a vital role in considering policy issues relevant to the Marine Park.

MANAGEMENT COORDINATING COMMITTEE

The Great Barrier Reef Marine Park Management Coordinating Committee is a forum for coordinating responsibilities of agencies within the Great Barrier Reef Region. The Committee is made up of representatives of the Authority, Queensland Departments of Environment and Conservation, Harbours and Marine, Primary Industries and the Premier. The Committee met once during the year and coordinated arrangements and proposed budgets for the Annual and 3 Year Rolling Programs for day-to-day management in preparation for the 14th meeting of the Great Barrier Reef Ministerial Council.

COMPUTER SERVICES

Computer hardware presently running at GBRMPA includes three UNIX minicomputers, a network of Apple Macintoshes and a number of stand alone IBM compatible PCs. The UNIX minicomputers comprise a Hewlett-Packard 9000/835, which is used primarily for the development and execution of database applications, a VAX 11/750 running word processing and spreadsheeting applications and an AT & T 3B2/400 which serves as a backup word processing facility.

Installation of the HP 9000/835, completed in July 1988, has significantly improved the performance of database applications and users are enjoying the benefits of an improved processing environment.

The VAX is still experiencing serious performance problems and response times at periods of peak demand are very slow, due to increasing word processing and spreadsheet use. Other drawbacks include rising maintenance costs and the relatively unsophisticated word processing software. A study of the computing needs of the Authority and its staff found it possible, within budget constraints, to replace the VAX with an alternative, much superior system. The replacement includes a network of microcomputers (Apple Macintoshes and IBM compatible PCs), linked to a MIPS M/120 UNIX minicomputer acting as the central fileserver. Existing mini and microcomputers will be connected to the network, creating an environment which will include an electronic mail capability, file transfers and the sharing of printer resources. Microcomputer software packages will be used to facilitate word processing, spreadsheeting and graphics applications.

MAPPING

Preparation of the Great Barrier Reef Series of maps covering the Great Barrier Reef Region continued to be the major mapping project. The maps, at a scale of 1:250 000 are being produced with the assistance of the Australian Survey and Land Information Group (AUSLIG) of the Department of Administrative Services. The entire series comprising 26 individual map sheets is now available, although some are still only in base map format. During the year, maps for the Mackay/Capricorn Section were released and base maps were completed for the Cairns Section.

Preliminary investigations to produce a new series of the 1:250 000 scale maps were commenced, aimed at optimising the areas depicted and reducing the number of sheets required to cover the Region, from 26 to 11 sheets. Other small scale maps to support the Mackay/Capricorn Section Zoning Plan and the review of the Cairns Section Zoning Plan were also prepared.

Staff of the Authority commenced the use of computer-aided mapping, using a mapping software package on the Authority's microBRIAN computer system. Computer mapping within the Authority will become more common, particularly in the preparation of draft zoning maps.

The Bathymetric Survey Program in the Mackay/Capricorn Section continued through the year. Large scale bathymetric maps prepared by AUSLIG and the Hydrographic Branch, Royal Australian Navy, were received. These detailed maps are prepared for reefs identified as probably needing intensive management in a few years time.

REMOTE SENSING

Employment of a temporary full time technical officer to manipulate data on the microBRIAN system allowed remote sensing applications to be employed in a range of projects addressed by Authority staff. Remote sensing products were particularly useful in supporting the assessment of a number of development proposals within the Marine Park. These included depth contour mapping of Fitzroy Reef in connection with a floating hotel proposal and mapping of turbidity and water currents in Nelly Bay, on Magnetic Island, to gauge the impact of proposed marina works.

Cataloguing of the stock of tapes of remote sensing data held by the Authority is well underway. The tapes include multiple coverage of the Marine Park in Coastal Zone Colour Scanner (CZCS), Advanced Very High Resolution Radiometer (AVHRR) and Landsat Multispectral Scanner (MSS) data, with several scenes of Landsat Thematic Mapper (TM) and Fluorescent Scanner imagery.

The project, 'Relationships between Crown of Thorns Starfish Outbreaks and Water Mass Characteristics on the Great Barrier Reef' continued. Final treatment specifications for the data were decided and the first treated images were produced, displaying qualitative classes of chlorophyll concentrations in GBR waters. Several images, covering the whole Reef at least twice, will be produced before the project concludes and the results are passed to marine researchers for analysis.

AERIAL SURVEILLANCE

New arrangements for aerial surveillance of the Marine Park were prepared following a revision of Government policy on Coastwatch operations. Under the new arrangements, many flights over the Great Barrier Reef are now dedicated to Marine Park management purposes. Control of Coastwatch has also passed from the Department of Transport to the Department of Customs.

Surveillance flying managed by Q.DEC has been expanded and a new flight pattern called 'plot flying' has been adopted. Under this system, the Park is divided into discrete areas called plots and an exhaustive search of a group of plots is undertaken on each flight. This has the advantage over the previously used transect flight paths of offering statistically valid data to assist management planning. Transect flying follows a fixed route and deviations from this path are made only to investigate vessel sightings. Discussions with Coastwatch are being held to arrange for them also to undertake plot flying on GBR dedicated flights, to begin early in the next financial year.

Plot flying by both Q.DEC and Coastwatch will give adequate coverage of the Marine Park for the purpose of the enforcement of zoning plans and for data collection. The added mixture of plot and transect flying will enhance enforcement effort as the appearance of a surveillance aircraft at a site at any time will be unpredictable.

LEGISLATIVE CHANGES

The *Great Barrier Reef Marine Park Amendment Act 1988* passed through both Houses of Federal Parliament and received Royal Assent on 6 December. This Act encapsulates needed amendments that have been identified during the period since the last amendment of the Great Barrier Reef Marine Park Act.

Among its elements, the Amendment Act increases penalties for breaches of the Act and provides for increases in other penalties by transferring provisions from the Regulations. Powers granted to inspectors have been expanded and a mechanism is created whereby those responsible for environmental damage may be held accountable for the cost of repairs. The Amendment Act also allows the Authority to provide assistance to other institutions or persons, including overseas agencies, in matters relating to environmental management, subject to the Minister's approval.

ENVIRONMENTAL IMPACT MANAGEMENT

The Environmental Impact Management Section aims to achieve cost-effective assessment and management of environmental impacts, issue of permits and recovery of associated costs in conjunction with Queensland Government agencies and others.

During 1988-89 the Park Management Section and the Planning Section were reorganised to take account of increased workloads from permits, particularly related to tourist operations. Planning and Management Section became responsible for planning, zoning and day-to-day management programs while Environmental Impact Management Section became responsible for environmental impact assessment and management of permitted activities, and the development of cost recovery and user pays policies. The Financial Statements (Appendix I) show the previous Section name 'Park Management' for comparative purposes.

For 1988-89 the objectives in relation to environmental impact assessment were to:

- manage major assessment projects within tight timelines and with limited resources
- revise and improve permit procedures, database management and documentation
- develop policies and procedures on the management of projects likely to have significant environmental impacts
- improve planning and procedures for the assessment of permits for tourist operations
- arrange for the administration of the *Sea Installations Act 1987* in the Great Barrier Reef Marine Park
- improve liaison with the tourism industry
- amend the Great Barrier Reef Marine Park Regulations to enhance management
- develop a concessions system for allocation of reef use

Detailed assessments of environmental impacts of many projects, particularly for tourism, were undertaken (refer Figure 2 the fold out map inside the back cover). Improved assessment processes evolved together with innovative protocols for monitoring and managing impacts. Charging for staff supervision costs arising from construction and for monitoring programs for approved projects was introduced. Joint assessment with Queensland Government agencies was improved and extended. Arrangements for transferring responsibilities for daily operations of the *Sea Installations Act 1987* from Department of the Arts, Sports, the Environment, Tourism and Territories (DASETT) to the Authority were finalised.

Permit assessment fee schedules and administrative arrangements for charging,

collection and disbursement of fees were developed in consultation with the Queensland Government agencies and representatives of the Queensland tourism industry, for possible introduction in 1989-90, subject to the outcome of further discussions with the industry.

Legal matters arising from appeals against Authority permit decisions and liability litigation were a significant components of the Section's program.

ENVIRONMENTAL IMPACT ASSESSMENT

Figure 2 contains details of major projects assessed, wholly or in part, during the year. The more complex projects or those with potential for significant environmental impacts were:

- floating hotel at Fitzroy Reef. A permit was issued for construction and installation, subject to satisfactory completion of conditions.

- marina at Nelly Bay, Magnetic Island. After extensive assessment a permit was issued by the Chairman, as delegate of the Authority, for construction subject to compliance with permit conditions. Requests were received to reconsider the decision. The Authority, at its 107th meeting on 25 January 1989, reconsidered the decision and decided to affirm the original decision. Subsequent to this, three appeals were made under the *Administrative Appeals Tribunal Act 1975* to review the decision.

- marina development proposals at nine locations : Baileys Creek, Hamilton Island, Dent Island, Shute Harbour, Midge Point, Daydream Island, Oyster Point, Keswick Island and Long Island.

Other significant proposals assessed, either wholly or in part, were:

- tourist complex (including underwater viewing chamber) at Arlington Reef
- nickel ore loading facility at Halifax Bay
- pontoon at Wistari Reef
- reef walkway proposal at Hardy Reef
- tuna longlining proposal - Cairns Section
- operation of fuel supply barge at Owen Channel, Flinders Islands
- barge ramp at South Molle Island
- establishment of pearl farming operations at Owen Channel, Flinders Islands
- removal of the floating hotel from John Brewer Reef
- Green Island underwater observatory.

'Fantasy Island' was a concrete pontoon designed as a day trip destination from Townsville. In May 1988, it broke up in heavy weather and sank at its mooring. The owner, Mr Doug Tarca, was requested to remove the wreckage. However, when the wreckage had not been removed after several requests and instructions to do so, the Authority drew on the security bond lodged by Mr Tarca in order to allow the salvage contractor to complete the task. The wreckage is now expected to be removed by the end of 1989. Although this process has been slow, it is expected that the objective of removal with little or no environmental damage and at no cost

to the Commonwealth Government will be achieved.

PERMIT RELATED ISSUES

The Chairman of the Authority has been delegated powers under the *Sea Installations Act 1987* to administer the Act in the Great Barrier Reef Marine Park, initially for developments not exceeding $5m. It is proposed that the Chairman also be delegated powers under the *Environment Protection (Sea Dumping) Act 1981* to act on behalf of the Minister.

Shortly after the end of the financial year, a Memorandum of Understanding was signed between the Authority and the DASETT on the administration of the *Environment Protection (Impact of Proposals) Act 1974* Assessment of public submissions arising from an Environmental Impact Statement or Public Environment Report will continue to be undertaken by the DASETT with input from the Authority; however designation of proponents will now be undertaken by the Chairman of the Authority.

A substantial amount of time was required to meet obligations under litigation in which the Authority was a party. The action taken against the Authority and others as a consequence of the Black Reef helicopter accident in 1985, was settled out of court with no judgement against the Authority. However, the Authority agreed to meet its own costs as part of the terms of settlement. These were of the order of $150 000-200 000. Three other claims arising out of the accident remain.

Three appeals have been lodged with the Administrative Appeals Tribunal against the decision of the Authority to grant a permit to Magnetic Keys Ltd. This has yet to be concluded but has already involved the Authority and its staff in considerable work and cost.

POLICY DEVELOPMENTS

Policies to meet the many new demands being placed on the Reef were developed on an 'as needed' basis largely through the process of assessing permits. The more significant of these policies were:

- introduction of contracts between the Authority and permittees for complex permits where failure to comply with conditions could have substantial environmental effects or leave the Authority with costly clean-up or rehabilitation responsibility. The existence of a contract facilitates legal action in the event of breach of permit conditions.
- introduction of reactive monitoring programs which provide for the suspension or stopping of a construction project where site supervision shows that levels of disturbance from construction exceed agreed parameters, e.g. for water quality
- introduction and refinement of guidelines and procedures for assessment of marinas, pontoons and mariculture projects
- introduction of arrangements for Authority management of monitoring programs for Reef developments. The programs are paid for by developers.

This policy is to ensure integrity of data collected and ownership of the data by the Authority

- development of policy for the allocation of permits to tourist operators to popular sites in the Cairns-Port Douglas area

- removal of bag limits for the traditional hunting of dugong by Aborigines and Torres Strait Islanders. This change was made after research commissioned by the Authority showed that the present take by traditional hunting and fishing would be unlikely to threaten dugong populations in the Great Barrier Reef Region;

- placement of temporary moratoria on further increases of tourist operations at Green Island and Low Isles to enable the development of management plans for both sites

- issue of a code of practice for fish feeding, where it forms part of the attractions of a tourist operation

- development of guidelines for treatment and discharge of sewage from island resorts

- development of policies for the introduction of permit assessment fees for tourist operations for the purpose of recovery of the direct costs of the Authority and its agents in assessing permit applications. It is proposed that these fees be introduced early in 1990.

COMPLEMENTARY MANAGEMENT

Environmental impact assessment and permit issue is increasingly undertaken in consultation with Queensland Government agencies. The more important aspects are:

- as a general rule, joint permits with force under both the Great Barrier Reef Marine Park Regulations and the Queensland Marine Parks Act are issued

- environmental impact assessment and permit conditions are agreed between the Authority and Q.DEC before isssue

- where possible one agency takes the lead in assessing the environmental impacts and includes requirements of other agencies in the process. This should assist proponents by reducing the number of agencies with which they must deal.

- providing for insurance and security bonds to apply equally to Queensland and Commonwealth Marine Parks, thereby removing the necessity for double amounts to be provided

- provision of site supervisors for major construction projects to look after the interests of both Q.DEC and the Authority.

Discussions have been undertaken with Q.DEC to establish arrangements for joint

environmental impact assessment in the GBRMP. If agreement can be reached then it is proposed to formalise such arrangements in a Memorandum of Understanding between the Authority and Q.DEC.

PERFORMANCE INFORMATION

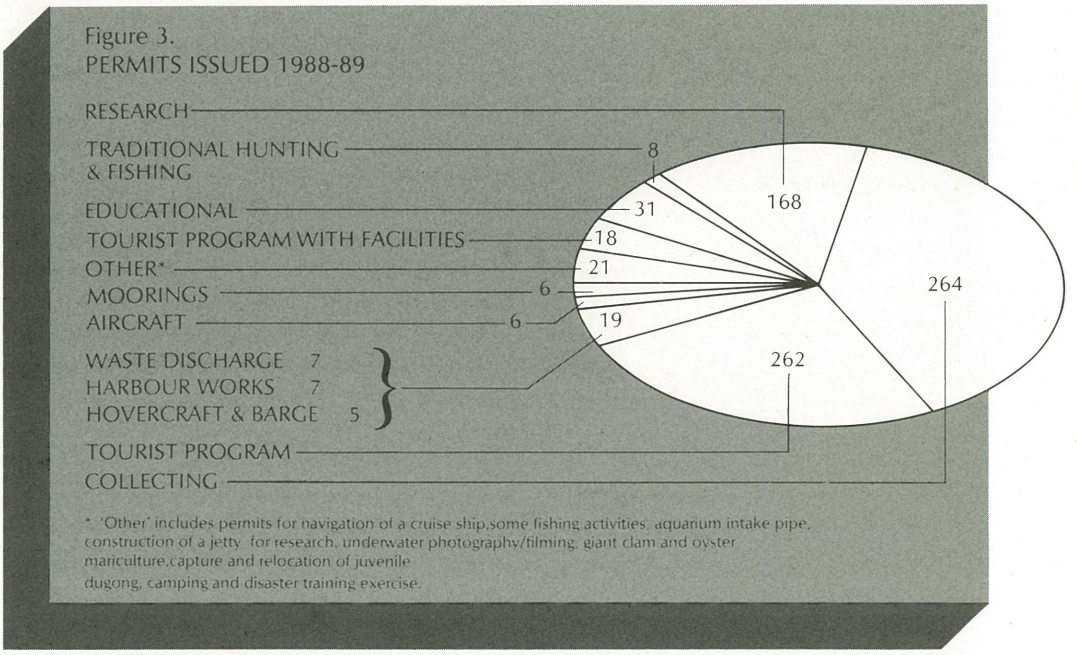
Performance for 1988-89 was assessed in terms of efficiency and effectiveness.

Efficiency is defined in terms of:

- the achievement of annual objectives
- the number and complexity of environmental impact assessments made and permits issued, and resources required for particular types compared with previous years.

Most annual objectives were achieved. Many other unforeseen activities were also satisfactorily undertaken.

In 1988-89, 803 permits were issued, compared with 816 in 1987-88. There was, however an increase in the number of more complex permits, such as for tourist structures.



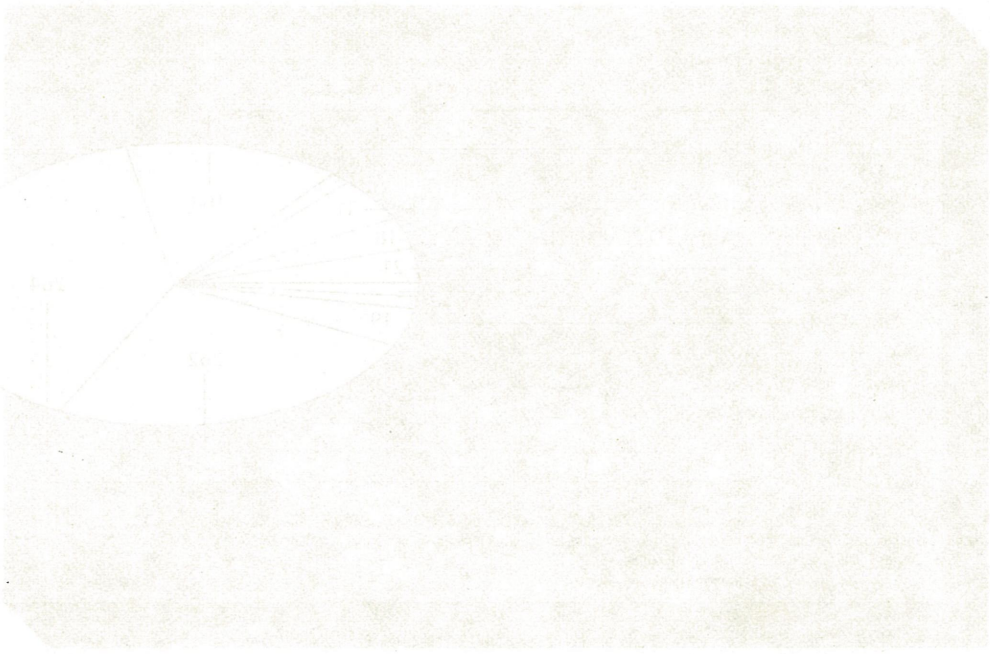
Effectiveness is defined as the extent of community understanding and acceptance of the provisions of zoning, regulations and management practices assessed from permit negotiations, public review of development proposals, appeals and litigation.

It is very difficult to gauge objectively whether this performance criterion has been met. There seems to be an increasing awareness by developers, and in particular engineering consultants, of the environmental impact assessment requirements of the Authority. In a number of significant cases, there has been very close consultation between developers and the Authority staff in the resolution of problems. However

there are still cases of operators making substantial commitments before inquiring about Marine Park requirements.

THE FUTURE

The focus will be on improved planning and predictive capability to reduce the amount of reactive decision-making and to create a more stable working environment for both staff and the public. More resources will need to be devoted to the active management of major projects. Innovative, cost- effective management methods will continue to be pursued. There will continue to be increasing pressure on scarce Reef resources, although it is hoped that the rate of increase of such pressure will level off in the coming years. It may be necessary to introduce tendering for the use of reef sites as a way of equitable allocation of sites. One matter of concern is the increasing trend towards expensive and time-consuming litigation. Such a trend is already having a serious effect on the limited resources of the Authority and on its ability to respond efficiently to environmental impact assessment and management matters.



RESEARCH AND MONITORING

The Research and Monitoring Section aims to achieve competence and fairness in the care and development of the Marine Park by obtaining and interpreting information relevant to the understanding of the Great Barrier Reef and to implementing Authority programs.

Section staff may undertake some research, but they are primarily responsible for managing and coordinating commissioned research projects. Projects are determined by their relevance to planning and management of the Marine Park. Most research is contracted externally to agencies including universities, government bodies and private consultants.

Other duties of the Section's staff include reviewing research permit applications, Public Environment Reports and Environmental Impact Statements; developing Environmental Monitoring Programs for approved developments in the Marine Park; contributing to the Australian Marine Research in Progress (AMRIP) database; providing technical advice to the Authority's Education and Information Section; liaison with scientific bodies; reviewing proposals relevant to management of the Marine Park for Australian Research Council grants; and providing scientific advice under the REEFPLAN oil spill contingency plan.

Under REEFPLAN, the contingency plan for oil spills in the Great Barrier Reef Region, staff of the Great Barrier Reef Marine Park Authority act as Scientific Support Coordinators and are responsible for providing scientific advice regarding oil spills.

In November 1988 the Authority, with the Department of Transport and Communication (DOTC), conducted a national workshop for Scientific Support Coordinators and, with other participants on the Queensland oil spill response committee contributed to the development of a user-friendly computerised coastal resource atlas. The Authority was also involved in a simulated oil spill exercise in Townsville organised by the DOTC.

The Authority's research program covers a wide range of disciplines including marine biology, physical, chemical and social sciences. Many of these projects are multi-disciplinary to provide a broad appreciation of particular sites or issues.

Nine priority areas were identified for the financial year. These were Crown of Thorns Starfish, Effects of Trawling, Effects of Demersal Reef Fishing, Reef Benthos Monitoring, Water Quality Assessment, Human Use Monitoring, Social Impact Assessment, Management Studies, Oceanography.

In 1988-89, 158 projects were managed by Section staff. Financial support was provided for 107 projects and the remaining 51 continued from the previous year without further funding (49 projects) or were funded in full from external sources

under the user-pays system (2 projects).

The Authority received 34 applications for financial assistance by post graduate students under the Augmentative Research Support Grants Scheme. Twelve of these projects were supported at a total cost of $10 415.

Figures 4 and 5 show the breakdown of projects in progress during 1988-89 by program area and in dollar terms respectively. Projects are listed in Appendix F.

Figure 4
NUMBER OF PROJECTS IN PROGRESS BY PROGRAM AREA
( ) Augmentative Research Grants included in total

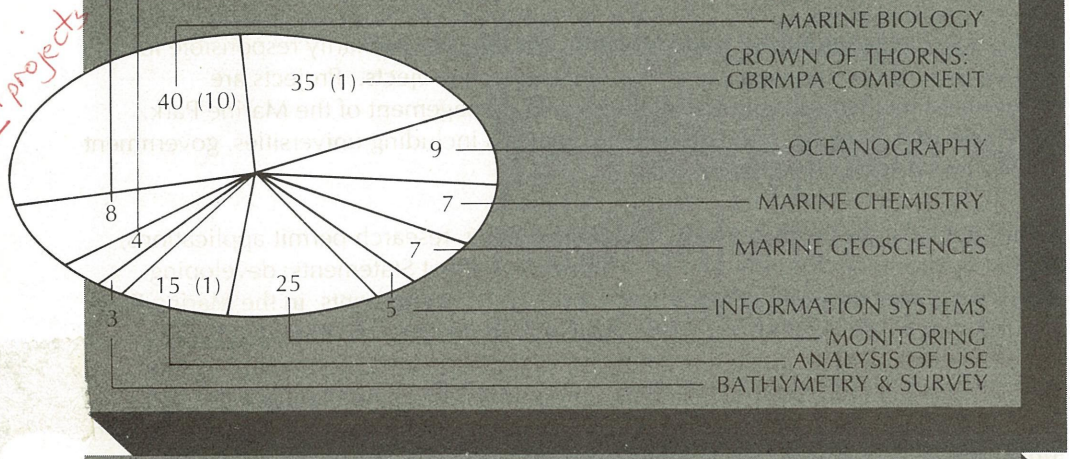
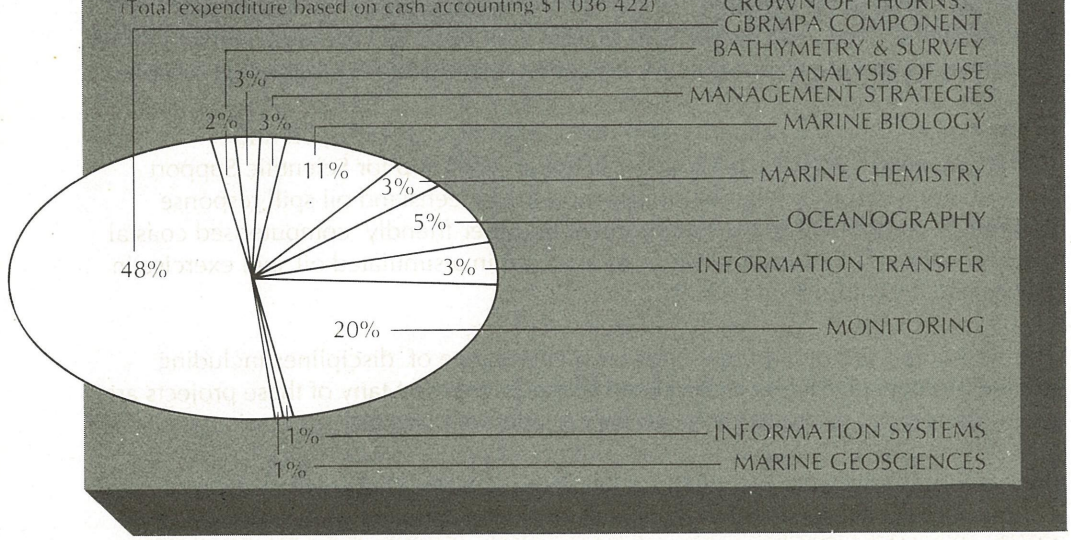


Figure 5
DISTRIBUTION OF FUNDS BY PROGRAM AREA
(Total expenditure based on cash accounting $1 036 422)



PERFORMANCE INFORMATION

Efficiency is assessed in terms of the cost of research, monitoring and interpretation, and the achievement of targets as measured by compliance with budget and project deadlines, and the time taken to disseminate information.

Overall, the Research and Monitoring program remained within the Section's budget of $1 388 396 for the 1988-89 financial year.

Of the 146 projects managed by Section staff (excluding Augmentative Grants recipients), 69 (47%) submitted final reports; 58 (40%) are continuing into 1989-90 and the remaining 19 (13%) were behind schedule. This compares favourably with the previous financial year when 22% of the 107 projects managed were behind schedule.

The Section routinely distributes summaries of all relevant reports to other sections of the Authority and to the Queensland Department of Environment and Conservation (Q.DEC).

Effectiveness is defined as the extent to which information, gained through research and monitoring, assists in achieving the Authority's objectives. Over the last 12 months the Authority has been conducting a review of the Section in terms of research funded, procedures, dissemination of results, and, more recently, interaction with researchers. The review has revealed several matters, including dissemination of results to other sections and communication with researchers about priorities and procedures, which the Section needs to improve. This is being done.

Highlights of the more topical projects undertaken during 1988-89 are described below.

CROWN OF THORNS STARFISH

The crown of thorns starfish phenomenon continued to be a major issue during the year. The Research and Monitoring Section received special funding of $564 000 for its research program as recommended by the Crown of Thorns Starfish Advisory Committee (COTSAC) and later supported by the House of Representatives Standing Committee on Environment and Conservation in 1985. The Authority also directly contributed the staff position of Acting Coordinator and an additional $68 000 towards the program.

Research Program Review

Professor Anderson's review (addressed by the Chairman in his introductory remarks) was a significant event for the crown of thorns starfish research program during the year. The Authority has made major progress in implementing some recommendations of the review and looks forward to being able to plan long-term research with the additional and committed funding recommended by Professor Anderson.

The new advisory committee, the Crown of Thorns Starfish Research Committee (COTSREC), has been established by the Authority. Chaired by Professor John Swan, members are Dr Joe Baker and Dr Peter Moran (AIMS), Professor Ray Golding (James Cook University), Mr Bob Pearson (Queensland Department of Primary Industries), Dr Keith Sainsbury (CSIRO) and Mr Graeme Kelleher and Dr Leon Zann (GBRMPA).

Status of Outbreaks

According to the results of a survey conducted by AIMS in November 1988, about 31% of reefs surveyed on the Great Barrier Reef have been affected to some extent. In the central third of the Great Barrier Reef, the figure is 65% of reefs sampled; in the northern third 4%; while in the southern third, the figure is now 20%. Forty percent of reefs off Cape Upstart are now affected to some extent. Small outbreaks have been reported in the Whitsunday Group and monitoring is continuing. Localised eradication programs involving Q.DEC personnel, charter boat operators and volunteers are in progress in areas of special importance to tourism operations.

Communication and Dissemination of Results

Results of fifteen crown of thorns starfish research projects were presented at the Sixth International Coral Reef Symposium held in Townsville in August 1988.

In February 1989 the Authority initiated a newsletter, COTS COMMS, intended to improve communications between Australian and overseas researchers in the field. Three issues were published during the year.

COTSREC members and invited scientists with a wide range of expertise will participate in a major workshop in July 1989 to review the status of knowledge of the crown of thorns starfish phenomenon and to discuss future research directions.

WATER QUALITY ASSESSMENT

Nutrient levels in inshore waters of the Great Barrier Reef Marine Park Region are reaching levels that have caused detrimental effects to corals elsewhere. Approximately 18% of the Section's budget was spent on water quality studies in 1988-89, primarily on preliminary or pilot studies to determine ambient levels of nitrogen and phosphorus in the Whitsunday and Cairns regions.

A Water Quality Advisory Committee was established this year to advise the Authority on an integrated research and monitoring program essential to determine the effects of siltation and nutrients on reefs. External funding is being sought to enable the establishment of a 5-year coordinated program on effects of siltation and nutrients on reefs and the contribution of various sources to nitrogen and phosphorus in the Marine Park. When these have been identified the Authority will communicate the results to the public and will work with the various community sectors with the aim of achieving voluntary action to reduce nutrient input to the Marine Park. Resort to regulation would only occur where education and attempts at achieving voluntary cooperation failed.

EFFECTS OF FISHING

A scientific workshop was held in February 1989 under the auspices of the multi-agency Advisory Committee on the 'Effects of Fishing in the Great Barrier Reef Region'. About 40 invited scientists attended the workshop to discuss the current state of knowledge regarding the effects of fishing (especially trawling) in the Great Barrier Reef Region and to recommend a research program to address any gaps identified.

The workshop recommended two major research projects which are under consideration by the Advisory Committee.

REEF COMMUNITIES AND HUMAN USE MONITORING

The Authority continued to monitor key sites and events where there are existing or potential management problems. The first year of the Environmental Monitoring Program at the John Brewer Reef floating hotel site was completed. The only major change detected on the reef over that time was an aggregation of fishes. This is not necessarily seen to be detrimental to the Reef.

Other monitoring programs focussed on determining the effects of sediment from the Cape Tribulation road on fringing reefs; dredge spoil dumping, and tourist developments on Norman Reef, Nelly Bay and Heron Island Reef.

Considerable staff time is expended in evaluating permit applications and Environmental Impact Statements (EISs); collating reviewers' comments on EISs; making recommendations on, negotiating, implementing and reviewing related Environmental Monitoring Programs. Studies in this context were funded for the most part by proponents of projects being reviewed.

Techniques

The question of monitoring methodologies was addressed and a coordinator contracted to assist in developing methods of efficiently monitoring the state of reefs in the Great Barrier Reef Region. Projects funded by the Authority included the consideration of optimal spatial scales for monitoring reef organisms; the analysis of data gathered at Agincourt Reef; an investigation of the biases associated with the manta tow method of counting crown of thorns starfish and the collection and computerisation of data from amateur fishing clubs.

Major objectives for the next financial year will be to consolidate our position with respect to monitoring methodologies by examining variations in temporal scales and quantifying the level of confidence we can have in data gathered using different sampling strategies.

Information Management

All the manta tow data of coral cover and crown of thorns activity held by the Authority are now available as a database on the Authority's computer and are easily accessed.

The Resource Inventory database (a joint project between the Authority and the Australian Littoral Society) has been designed and data will be entered in the 1989-90 financial year1.This compilation of everything known about the islands and reefs of the Great Barrier Reef will form the hub of the Authority's Geographic Information System.

MANAGEMENT STUDIES

Two significant works in the areas of endangered species and traditional hunting were completed during the year. Dr Helene Marsh's study to determine the

biological basis of dugong management surveyed the entire Great Barrier Reef for dugongs and the population was estimated to be 11 600 +/- 1170 with approximately 20% of the population located in the Starke River area.

A study on the usage of marine resources by aboriginal communities on the east coast of Cape York Peninsula was published during the year.

OCEANOGRAPHY

Contractual arrangements between the Authority and the Marine Modelling Unit at James Cook University have enabled the provision of invaluable advice on a number of the Section's projects. Significant assistance was also received from AIMS.

Modelling of water flows in various sections of the GBR has provided information pertaining to possible effects of proposed developments, the review of the Cairns Section Zoning Plan and the crown of thorns starfish issue.

EDUCATION AND INFORMATION

The Education and Information Section's objective is to enhance community understanding, appreciation, experience of and support for the Great Barrier Reef, the Marine Park and the Authority. The Section provides advice, education and information materials and services.

The Section's responsibility covers the following services:

- Increasing community awareness, understanding of, and support for Authority policies, programs and services
- encouraging public appreciation of, and responsibility towards the Great Barrier Reef Marine Park
- supporting the work of all Sections of the Authority through the provision of design and publications assistance
- cooperating with other government departments concerned with the Great Barrier Reef Marine Park to achieve the Authority's goal and aims
- disseminating educational materials and information services for the Authority
- encouraging community cooperation and participation in planning and managing the Great Barrier Reef Marine Park
- supporting community organisations, commercial or otherwise, in providing quality public education, information and interpretive services about the Great Barrier Reef Marine Park.

PERFORMANCE INFORMATION

The **efficiency** of education, information and advisory services is assessed in relation to their cost and the extent to which they meet the Authority's objectives, as measured by:

- compliance with project deadlines and budgets
- extent of utilisation of products
- average cost per unit area of zoned Marine Park.

The **effectiveness** of education, information and advisory services is assessed by the extent to which they inform, satisfy, create awareness or educate the public about the Marine Park and the Authority as measured by:

- assessment of level of support for services (i.e. demand for information/ services/products)
- evaluation of target populations to assess levels of awareness or satisfaction
- expert opinion on quality of GBRMPA products.

The Education and Information Section achieved its planned annual program with 11 new projects added and 8 projects deleted. Expenditure amounted to 93% of the program budget and the majority of projects were within their budget estimates. The balance of funds (7%) was allocated to a special Marine Park display in the Aquarium.

The cost of education and information per unit area of zoned Marine Park was reduced over the year, compared to previous years.

	1987-88	1988-89
Zoned Area (square kilometres)	207 000	344 000
Cost (net expenditure)	$999 000	$1 207 000
Unit Cost (adjusted to 1989 prices)	$5.07	$3.50

There was an increase in demand for most services provided by the Section compared to the previous year, including:

- 35% increase in written requests for Reef information, especially from students (2125 letters).
- 5% increase in library services including borrowings for books, maps and audio-visual materials.
- 7% increase in revenue from sales and distribution of educational resources ($62 000).
- 87% increase in Authority exposure through press, radio and television.

Surveyed opinion of community awareness in the Mackay/Capricorn Section showed there was a significant increase in the awareness of zoning following the broadcast of advertisements on regional television.

Expert opinion on the quality of the Section's products and services was measured by the number of awards for excellence won during the year. They are listed below.

REEF REPORT (GBRMPA Video magazine)	Best Electronic Media	Queensland Tourism Awards and Australian Tourism
REEFLECTIONS (GBRMPA Newsletter)	Award of Merit Best External Serial Publication	Australian Society of Business Communicators

CORAL MOON MAGIC (Article in 'Eye Spy' magazine)	Award of Merit Best News Feature	Australian Society of Business Communicators
REEF AWARENESS PROGRAM (North Queensland Games, Cairns)	Golden Serif Best Special Event	Australian Society of Business Communicators
PROJECT REEF-ED (Educational Reef Activity Book)	Golden Serif Best External Publication	Australian Society of Business Communicators
MS LESLEY MURDOCH (Project Officer)	Diamond Serif Most Outstanding Individual of the Year	Australian Society of Business Communicators

PRODUCTION OF NEW EDUCATIONAL MATERIALS

The long awaited *Project Reef-Ed,* designed to assist educators organise field trips and undertake study projects about the Reef, was completed and launched in September. Written by a team of leading Australian marine educators, this resource book was distributed to over 500 secondary schools and other educational institutions throughout Australia.

The Mackay/Capricorn Zoning Plan information kit, containing 10 maps of the Section, was produced and distributed to key organisations and individuals after this Zoning Plan came into effect in August 1988. A Public Awareness Program conducted by the University of Queensland involving television and newspaper advertising, displays, direct mailing, and public meetings were among the successful methods used in informing Reef users of the new plan.

Film and video programs about the Marine Park continued to be a major activity of the Section. Advice and assistance was provided to over ten television production companies in filming aspects of the Reef. Management messages were included in each program.

Three editions of *Reef Report,* the Authority's 30-minute video magazine, were produced and each edition was distributed to over 100 scientific, educational, tourist and management organisations on a cost-recovery basis during the year. This project was recognised as an extremely effective means of informing key groups about developments in the Marine Park by the 1988 Queensland and Australian Tourism Industry Awards. *Reef Report* did run over budget however and it is planned that a cost- evaluation of it be undertaken in the immediate future.

Two further issues of the newsletter *Reeflections* were distributed. The Authority's mailing list increased and extra copies of the newsletter were sent to the Great Barrier Reef Aquarium members and volunteers, and all regional offices of Queensland Department of Environment and Conservation for distribution. Over 10 000 copies are now produced.

Japanese language material was produced for the first time. Brochures about the Authority and the Great Barrier Reef have assisted the tourism industry to provide a better service to visitors of the Reef region.

A special publication *Discover the Great Barrier Reef Marine Park* was produced jointly with the publishing company, Bay Books. The 25 000 copies of this highly acclaimed book have been made available throughout all major Australian bookshops and newsagents. This full colour, quality publication demonstrates the professional contribution of Authority and Aquarium staff.

Assistance was provided to other Sections to produce and promote a range of research reports, special management plans, maps, brochures and slide kits.

Major displays of the Marine Park were designed and produced for Gladstone Airport, Gladstone Marina, Townsville Airport and an Australian Exhibition in Denmark. A large number of minor displays were produced to assist Authority and Q.DEC staff at conferences and community events.

COMMUNITY ASSISTANCE

A program to assist community organisations develop innovative educational materials or projects about the Marine Park was made available for its second year. The Reef Education Development Scheme funded a range of approved projects including:

Marine Education Society of Australasia
Funding to assist organisation of the 1988 Annual Conference of MESA in Townsville ($1578).

Townsville Art Society
Sponsorship of Pacific Festival Art Competition in Townsville, featuring a special category of reef paintings ($500).

Marine Parks Teacher Training
Subsidise costs associated with a teacher field trip to North West Island, following a Q.DEC Marine Parks Teacher Training Course ($150).

Dictionary of Marine Science
Employment of a consultant to describe 100 reef management definitions for the publication *Macquarie Dictionary of Marine Science* ($2000).

Seaweek '89
Employment of a consultant for 12 weeks to promote and organise a program of community events in Rockhampton for 'Seaweek' ($2880).

Marine Park Experience
Subsidise costs associated with a Rockhampton student project to survey and monitor anchor damage and pollution on fringing reefs in the Keppel Islands ($713).

Camtas Tourist Map
Sponsorship of Marine Park zoning annotations into a privately produced tourism and fishing map of the Whitsunday Islands ($500).

Townsville 'Port of Call' video
Sponsorship of Marine Park and Aquarium information into an 8-minute promotional video about the Port of Townsville for UK tourist cruise ships ($700).

MEDIA COMMUNICATION

The Authority continued to develop and expand its public contact through media communication.

Consolidation of contact with both newspaper and electronic media by the Section has resulted in a high level of media response. In the main, this response has been positive with the Authority achieving 'good press' in 95% of cases.

Media monitoring records show that during the period of review, there was an 87% increase in Authority exposure through press, radio and television over and above the 87-88 period.

The increased media exposure can be attributed to the developing awareness by media of the work, goal and aims of the Authority plus growing public demands for more information on environmental matters.

Media communication and distribution of Authority information for public consumption has been refined in a cost effective strategy designed to achieve maximum target-directed impact.

MARINE PARK MEDIA EXPOSURE

	PRESS		RADIO		TV		JOURNALS	
	87-88/88-89		87-88/88-89		87-88/88-89		87-88/88-89	
LOCAL	(24)	35	(12)	54	(16)	20	-	-
REGIONAL	(27)	40	(22)	47	(16)	15	(1)	-
STATE	(2)	23	(8)	25	(7)	8	(2)	2
INTERSTATE	(1)	8	(1)	18	(2)	2	-	2
NATIONAL	-	10	(1)	5	(5)	1	(17)	3
INTERNATIONAL	(2)	2	(1)	1	-	-	(4)	-
SUB-TOTAL	(56)	118	(45)	150	(46)	46	(24)	7
TOTAL	(171)	321						

TRAINING PROGRAMS

Educational staff assisted the Q.DEC in conducting 10 training programs for tourism operators at regional centres adjacent to the Marine Park. These courses were designed to educate operators about the Reef and encourage the provision of more interpretive activities to tourists.

In addition, several teacher training courses were conducted along similar lines to assist schools develop Reef educational programs for students. Special assistance

was also provided to the Great Barrier Reef Aquarium for its school and volunteer programs.

FREEDOM OF INFORMATION

The Authority received only two requests under the Freedom of Information Act (FOI) during 1988-89. One request was made in November for information relating to the Authority's decision-making process about the Magnetic Quays proposal on Magnetic Island. The second was made in May and related to personal records of the applicant. Both requests were fully completed in the required time.

The Authority maintained its updated documentation called for under sections 8 and 9 of the FOI Act, and its regular reporting. Responsibility for granting or denying access to documents rests with the Executive Officer. Documents available to the public are listed in Appendix D.

LIBRARY

The library provides an information service, based on published and unpublished material, to assist the Authority and its staff undertake their duties. During the year there was an increase in the number of monographs and periodicals received with a corresponding increase in borrowing. Several changes were made to improve the services offered by the library including:

- development of a Cartographic Catalogue for maps and aerial photographs of the Reef
- introduction of a new library compactus which provided greater storage space
- improved colour slide and black and white photograph collection now totalling 22 000 Reef images
- computerised library cataloguing on the MICROCAIRS system allowing easier and clearer access.

The library collection reflects the wide interests of Authority staff. Although the emphasis is on the Great Barrier Reef, the collection contains general material on tourism, environmental issues and natural resource management.

AQUARIUM

The Great Barrier Reef Aquarium opened on 24 June 1987. Its objective is to enhance community understanding, appreciation, experience of and support for the Great Barrier Reef, the Marine Park and the Authority by providing a readily accessible onshore reef environment and interpretive facilities. It was developed as part of the Great Barrier Reef Wonderland Bicentennial Commemorative project. This whole project was conceived by the Authority's Chairman as a facility for educating the public about the Great Barrier Reef.

The Aquarium features a coral reef system incorporating a walk-through viewing tunnel that provides a reef experience which is both fascinating and realistic, and stimulates the visitor to further explore the Great Barrier Reef. The Aquarium is operated by the Authority on a full cost- recovery basis.

Great Barrier Reef Wonderland also incorporates a branch of the Queensland Museum concentrating on the natural sciences, history, culture and development of North Queensland and features specialist exhibits relating to the Great Barrier Reef. Both the Aquarium and the Museum elements of the Wonderland facility were funded through Bicentennial grants.

An Omnimax cinema and commercial centre of shops, offices, food outlets and charter boat services were developed with private sector funding. High speed catamarans provide a service to Magnetic Island and the Great Barrier Reef.

PERFORMANCE INFORMATION

The extent to which the Aquarium met its objective in the past year is assessed in terms of the following performance indicators:

Maintenance of biological and interpretive displays and services.

During the year interpretive displays were further developed with improved labelling, the addition of a crown of thorns starfish exhibit, and an interactive computer display which enables visitors to find out about zoning and multiple use of the Great Barrier Reef Marine Park. A series of changing exhibits on the observation deck proved to be popular with both schools and the general public.

This year the Aquarium employed an education consultant to develop school programs. Workshops were held for approximately 100 teachers from Townsville and the surrounding region and school programs were trialled at the beginning of the year. School programs, teachers' guides and student worksheets were produced for grades P-12. Over 5700 students attended school programs this year.

An Aquarium Membership Scheme was launched in August 1988. The membership

programs encourage community involvement in the Aquarium and support for the Authority's goal and aims. Members' activities include reef trips, school holiday activities, special activities (e.g. viewing of coral spawning) and regular weekly programs for families and children. Since it was launched over 3000 people have joined the scheme.

The Aquarium conducted two volunteer training programs in 1988-89. For 8 hours each month volunteers can choose to guide in the interpretive area, assist behind-the-scenes and help with Aquarium education programs. In return they receive a 6 week training program which offers a comprehensive introduction to the Aquarium and the Great Barrier Reef with expert tuition from JCU, AIMS and GBRMPA staff. On-going workshops and field trips maintain volunteer interest in the program and improve those skills individuals wish to develop while volunteering at the Aquarium. Over 120 people have become Aquarium volunteers since the program commenced in October 1987.

The coral reef tank was maintained in excellent health throughout the year. Some noteworthy aspects were:

- as on nearby reefs. Our confidence in the health and behaviour of the aquarium reef enabled the public to be present on the correct nights to view the spectacular event.

- waters of the Great Barrier Reef

- coral placement and stocking levels were refined to bring the reef closer to a typical coral reef ecosystem.

Stocking levels in the predator tank were increased by the addition of more species including a green turtle, several trevally, a Queensland groper and a shark ray.

Several new and unique ancillary biological displays were developed during the year including:

- sea snakes

- box jellyfish

- mangrove tank

- green turtle eggs (these eggs were hatched in full public view and after 8 weeks hatchlings were released on Myrmidon and Eagle Reefs within the Great Barrier Reef Marine Park).

Public impact

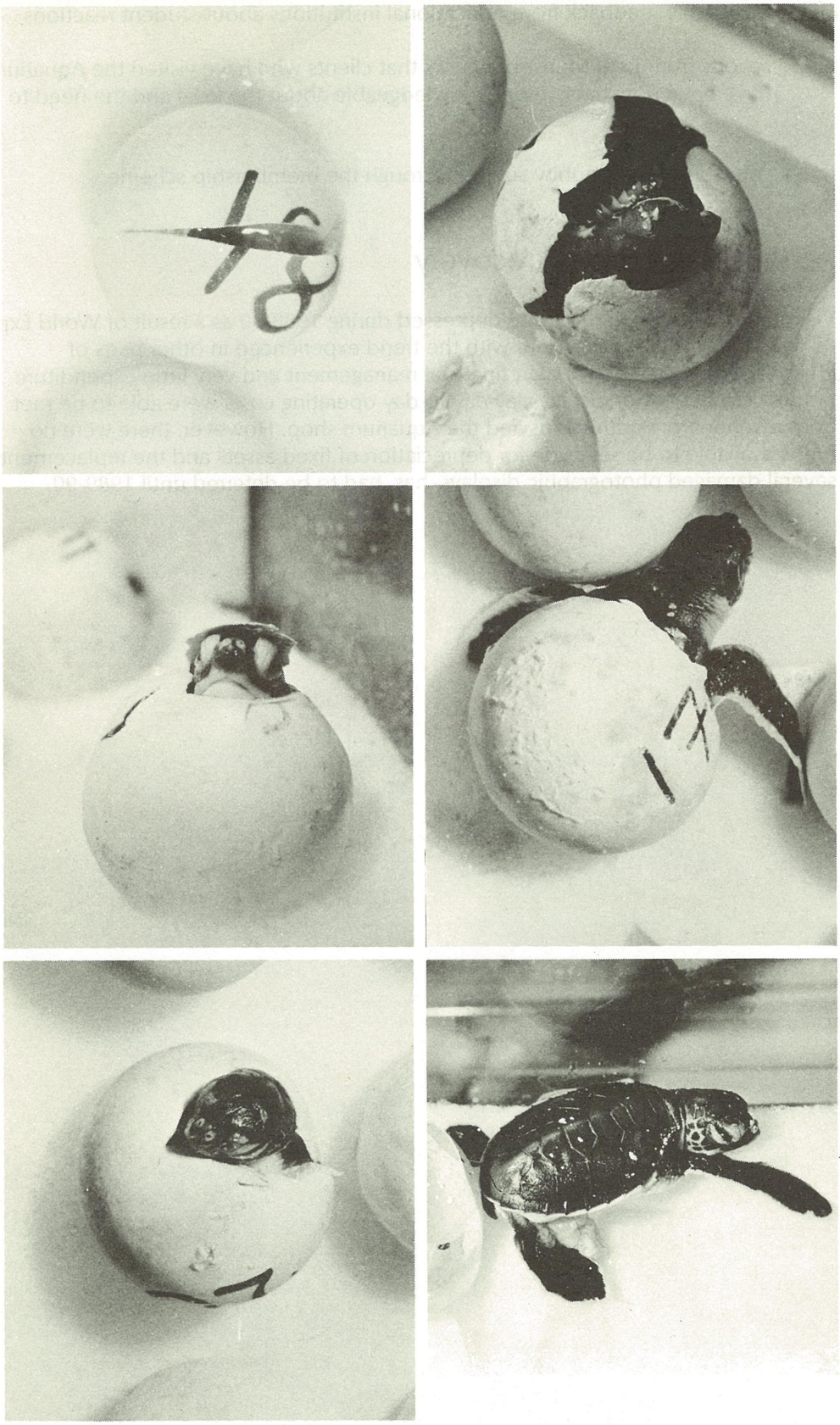
Approximately 230 000 people visited the Aquarium during 1988-89. The following indicators suggest that the Aquarium has had a significant positive effect on public the Marine Park concept:

- more informed public comment and inquiries to the Authority

- favourable feedback from educational institutions about student reactions
- reports from Reef tourist operators that clients who have visited the Aquarium have been noticeably more knowledgeable about the Reef and the need to
- widespread community support through the membership scheme.

Achievement of cost recovery

Visitor numbers continued to be depressed during 1988-89 as a result of World Expo 88 in Brisbane (this is consistent with the trend experienced in other parts of Queensland). As a result of tight financial management and very little expenditure on new equipment or displays, all day to day operating costs were able to be met from revenue from admissions and the Aquarium shop. However, there were no funds available to be set aside for depreciation of fixed assets and the replacement of several damaged photographic displays has had to be deferred until 1989-90.



A baby green turtle *(Chelonia mydas)* gets its first look at the world from the incubator at the Great Barrier Reef Aquarium. The eggs were provided through the Q.DEC Turtle Research Program. (Photos: Ray Berkelmans)

ADMINISTRATION

The Administration Section is part of the corporate management and services program, the objective of which is to achieve cost-effective delivery of programs by providing executive management and administrative support to the Minister, the Authority and its staff.

The Section's responsibility covers the following corporate services which are centralised in the interests of efficiency:

- personnel management
- finance management
- general services including property, stores, and registry.

The objective of the sub-program requires continual development of an appropriate infrastructure for operations.

Within the limits of Authority direction and regulation, the Section seeks to meet particular operating needs through informality and simplification of procedures and systems.

The **efficiency** of the corporate services is assessed in relation to their cost and the extent to which they comply with and meet Authority and external requirements, as measured by the:

- management of Average Staffing Levels (ASL) - % variation
- management of financial resources - % variation
- cost of the support services in relation to the Authority's overall outlays - time/cost for key tasks or services, e.g. payment of accounts, recruitment
- compliance with standards of quality - as reflected by audit findings

The **effectiveness** of the corporate services is assessed by the extent to which the administrative infrastructure is adapted to support all programs and the central resource management requirements as measured by:

- the degree of 'client' satisfaction with the standard of each service
- the timeliness of the implementation of Authority policies and decisions
- implementation of government policies and directives that flow from government decisions
- resource usage outcomes

PERSONNEL MANAGEMENT

From a structure of 105 positions, 25 were advertised for filling within the average staffing level (ASL) limitation of 96.5. The target for the filling of vacancies was 12 weeks.

In 1988-89 the average time between advertising and notification of a promotion or an appointment was 14 weeks, compared with 13 weeks for 21 positions advertised in 1987-88. Considering the number of applications and the necessity for officers to handle selection work together with their mainstream responsibilities, the outcome was satisfactory.

The ASL for 1988-89 was 94.7, a variation of -1.9% from the approved ASL of 96.5. Altogether 15 permanent staff (15.5%) left the Authority compared with 6 permanent staff (6.7%) in 1987-88. The implementation of the revised Office Structures continued through the year with particular emphasis on multi-skilling, flexibility and mobility and computer/keyboard training. The requirements for job redesign, generic duty statements and skills training are being introduced over time.

During the year, the following changes were made to the establishment positions by the Chairman under the powers vested in him under section 27 of the *Public Service Act:*

Retitle:

- Planning Section to Planning and Management Section
- Park Management Section to Environmental Impact Management Section

Creation of Offices

Education and Information Section
- Journalist Grade A1

Aquarium Section
- Science 3
- Science 1
- Administrative Service Officer, Class 3

Environmental Impact Management Section
- Administrative Service Officer, Class 6
- Administrative Service Officer, Class 5 - two positions
- Administrative Service Officer, Class 3

Planning and Management Section
- Administrative Service Officer, Class 4
- Administrative Service Officer, Class 3

Transfers of Office:

- Six positions of Administrative Service Officer, Class 6 from Environmental Impact Management Section to Planning and Management Section

Abolition of Offices:

Aquarium Section:

- Engineer, Class 4
- Technical Assistant, Grade 1

Education and Information Section

- Administrative Service Officer, Class 6 (on vacancy)

Reclassification of Office:

Corporate Management (Canberra Office)

- Administrative Service Officer, Class 6 to Administrative Service Officer, Class 7

The Staff of the Authority as at 30 June 1989 is set out in Figure 6.

The total expenditure on salaries and related costs was $3175 472, being $139 000 over the originally approved budget of $3 036 000, a variation of +4.6%. These figures include the staffing costs of the Aquarium which are not funded through parliamentary appropriation but are met from Aquarium revenues on a cost-recovery basis.

Equal Employment Opportunity

The Authority's commitment to equal employment opportunity (EEO) was demonstrated through information dissemination, personnel policies in relation to conditions of employment, recruitment and selection procedures and in personal development. The Draft EEO Plan has been reviewed in consultation with unions and the Public Service Commission and is expected to be finalised soon.

There were no EEO-related grievances during the year. EEO data are summarised in Tables 5 and 6. The position is similar to service-wide levels except that the level of Aboriginal and Islander employment is lower than what might be expected in relation to the percentage of this group in the north Queensland region. Action to address this situation continues and is a priority in the EEO Plan for implementation in 1989-90.

Successful implementation of the zoning and management plans for the Great Barrier Reef Marine Park requires the involvement and education of Reef users and their lasting cooperation. Suitable programs are being implemented to enhance the community's awareness, appreciation and support for the Great Barrier Reef, the Marine Park and the Authority. These programs will assess and provide for the needs of special groups including migrants and persons of a non-English speaking background.

The Chairman and Executive Officer are the senior executives responsible for EEO. The Manager, Personnel and General Services (ASO 6) is the EEO Coordinator. The Administration Section's contribution to EEO and its implementation involves approximately 0.5 of a staff year.

Figure 7
STAFF OF THE AUTHORITY
AT 30 JUNE 1989
(Full time equivalent)

		PERMANENT	TEMPORARY	TOTAL
OPERATIVE				
Townsville	Executive and Secretariat	4	-	4
	Research and Monitoring	7	1	8
	Planning and Management	11	3	14
	Environmental Impact Management	14.75	-	14.75
	Education & Information	12	2	14
	Administration	12	3	15
	Aquarium	10.3	12.1	22.4
	TOTAL TOWNSVILLE	**71.0**	**21.1**	**92.1**
Canberra	Executive	2	-	2
	Support	3.8	-	3.8
	TOTAL CANBERRA	**5.8**	**-**	**5.8**
	TOTAL JUNE 1989	**76.8**	**21.1**	**97.9**
	JUNE 1988	71.5	15.9	87.4
INOPERATIVE				
	Leave with pay	1	-	1
	Leave without pay - Study	2	-	2
	- Public Interest	-	-	-
	- Other	5	-	5
	TOTAL	**8**	**-**	**8**

Table 5

REPRESENTATION OF EQUAL EMPLOYMENT OPPORTUNITY GROUPS WITHIN SALARY LEVELS 30 JUNE 1989

SALARY	TOTAL NO. OF STAFF 1988	TOTAL NO. OF STAFF 1989	WOMEN 1988	WOMEN 1989	NESB	ATSI	PWD	STAFF WITH EEO DATA
Below $20 466 (to top ASO1)	8	**19** (87%)	7 (58%)	**11**	0 (18%)	2 (18%)	2	11
$20 467-$23 504 (to top ASO2)	23	**19** (61%)	14 (74%)	**14** (14%)	1	0 (14%)	1	7
$23 505-$29 082 (to top ASO4)	12	**16** (83%)	10 (81%)	**13** (14%)	2	0 (14%)	2	14
$29 083-$37 033 (to top ASO6)	32	**33** (28%)	9 (27%)	**9**	0	0	0	26
$37 034-$46 370 (to top ASO8)	17	**16** (23%)	4 (25%)	**4** (10%)	1	0	0	10
SES & above	2	**2**	0	**0**	0	0	0	2
Unpaid leave	4	**6**	2 (50%)	**2** (33%)	0	0	0	6
TOTAL	98	**111**	46 (47%)	**53** (48%)	4 (5%)	2 (3%)	5 (7%)	76

Table 6

REPRESENTATION OF EQUAL EMPLOYMENT OPPORTUNITY GROUPS WITHIN OCCUPATIONAL GROUPS 30 JUNE 1989

OCCUPATIONAL GROUP	TOTAL NO. OF STAFF	WOMEN	NESB	ATSI	PWD	STAFF WITH EEO DATA
SES	2	0	0	0	0	2
ASO	91	48 (53%)	4 (6%)	2 (3%)	4 (6%)	68
Professional & Technical	8	4 (50%)	0	0	0	4
Other	10	1 (10%)	0	0	1 (50%)	2
TOTAL	111	53 (48%)	4 (5%)	2 (3%)	5 (7%)	76

Key: NESB Non English Speaking background
PWD People with a Disability
ATSI Aboriginal and Torres Strait Islander
SES Senior Executive Staff
ASO Administrative Service Officer and related areas

Note: Percentages for women based on total staff; percentages for other groups based on staff for whom EEO data was available (92% of all permanent staff).

Source: Continuous Record of Personnel, GBRMPA Staff Report and Personnel Records.

Industrial Democracy

The revision of the Industrial Democracy Plan, in consultation with the unions is completed and awaits formal consideration by the Authority. It has always been recognised that while the ultimate responsibility for management lies with the Authority, effective management will be enhanced through the involvement in and the commitment of staff to the decision making process. This requires the involvement of staff in consultations which:

- allow staff to fully apply their skills and experience
- recognise the dignity of all staff
- provide staff with the opportunity to influence the decisions that affect the quality of their working lives.

It is expected that the revised Plan will be in place by the end of 1989.

Occupational Health and Safety

The Authority is highly conscious of its duty of care' and to this end regards the health and safety of its staff as paramount. In addition to the provision of advice on safety measures to be followed by staff in the course of their activities, the services of a professional firm of counsellors/psychologists were engaged to assist staff who were experiencing personal difficulties. Altogether one staff member was referred to this firm for assistance; another three staff voluntarily sought their services.

Also, as a contributor to COMCARE, the Authority is committed to the care and management (as appropriate) of its staff throughout periods of convalescence from injury or illness and the establishment of rehabilitation programs that will facilitate the speedy return of staff to work. The Rehabilitation Plan is being drafted and is expected to be cleared by staff and their unions and submitted for approval by the Authority before the end of December 1989. Consideration is also being given to the preparation of an Occupational Health and Safety Plan for application within the Authority's workplace.

Personal Development

The Authority has to rely on training opportunities offered by departments, management consultants and other outside bodies for the personal development of its staff. Participation in work related conferences and seminars and attendance at occasional presentations given by visiting experts also contributed to the professional development of its staff. Altogether 43 staff were involved in one or more personal development activities.

During the year a second officer commenced full-time study leave; another 6 officers have part-time study leave. The Authority also continued to provide work experience placements for local high school students.

Participation in the Regional Director's Staff Development Scheme has opened up

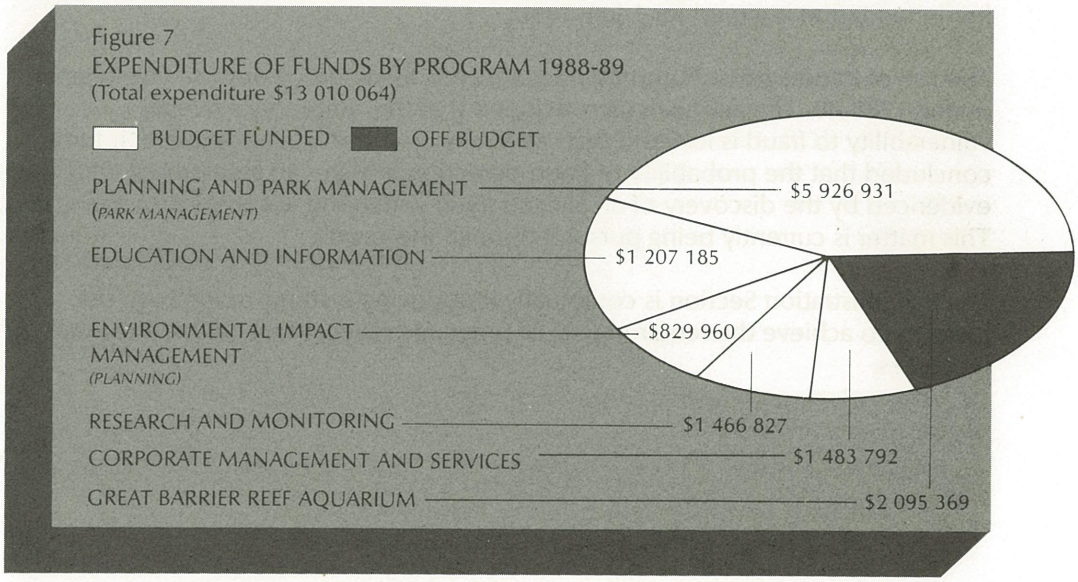
further opportunities for staff to attend personal development workshops and seminars in Brisbane. In Townsville, a number of departments and agencies are cooperating in the pursuit of arranging more personal development courses on a cost - sharing basis.

FINANCE MANAGEMENT

In the budget for 1988-89, Parliament appropriated $8632000 for the Authority's programs, other than the Great Barrier Reef Aquarium which is self funding and operates at no cost to the government. Additional funds amounting to $612 619 were carried forward from the 1987-88 financial year and applied towards 1988-89 activities. Under the cost-sharing arrangements for the day-to-day management of the Marine Park, an amount of $1 829 750 was received from the Queensland Government during the year. Receipts from other sources including interest, contribution for baseline and monitoring studies and the sale of information materials amounted to $787 175.

Program expenditure for the year, other than expenditure on the Great Barrier Reef Aquarium, amounted to $10 914 695, or 92.% of funds available. Expenditure of $2 095 369 on the Great Barrier Reef Aquarium program was met from its income generating activities. Full details are provided in Appendix G financial statements.

The expenditure of funds for all programs is shown in Figure 7. These expenditures include the allocation of salaries and certain overheads to each program. The figures for the Environmental Impact Management, Planning and Management programs have been adjusted to reflect the full years cost of these programs.



The Authority is progressing with the development of a Financial Management Information System. Arrangements have been made for the assistance of the Department of Finance in this project.

GENERAL SERVICES

The cost of corporate services in 1988-89 was $1 483 782 which represents 13.6% of the Authority's expenditure (excluding that for the Great Barrier Reef Aquarium) compared with 18% in 1987-88. The variation is due mainly to the one-off costs of the fit out and relocation of the Townsville office during 1987-88.

SUMMARY OF PERFORMANCE INFORMATION

The Authorities ASL increased from 90 in 1987-88 to 96.5 in 1988-89 due to an increase in functions. This was an increase of 6.5. The ASL useage in 1988-89 was 94.7. This marginal under usage of ASL (1.8) resulted from time taken to restructure Sections to reflect increased functions and recruitment to those new positions and positions vacated following two early retirements.

The Authority achieved an improvement in the time/cost of recruitment in 1988-89.

In terms of expenditure, estimates of program requirements in 1988-89 were largely met. The carry over includes unfilled orders/contracts and unspent monies for industry funded baseline and monitoring studies. The balance is within the allowable 2% carryover provision for running costs.

In its report to Parliament during 1988-89 the Australian Audit Office referred to delays in implementing a new computerised financial accounting system. The Authority, with the assistance of the Department of Finance, is currently investigating commercial software for a new financial management information system. Implementation is aimed for 1 July 1990.

The risk of fraud against Authority programs was assessed by outside consultants during 1988-89. The risk analysis concluded that the Authority's overall vulnerability to fraud is low and that generally its controls are adequate. It further concluded that the probability of fraud detection is high - an assessment which was evidenced by the discovery of an alleged fraud within the accounts processing unit. This matter is currently being pursued through the courts.

The Administration Section is continually introducing systems to improve our capacity to achieve the requirements of program management, within the limits of resources.

CANBERRA OFFICE

The Canberra Office is part of the corporate management and services program, the objective of which is to acheive cost effective delivery of programs by providing executive management and administrative support to the Minister, the Authority and its staff.

Major acheivements during 1988-99 were:

- assisting with the introduction of the Mackay/Capricorn Section Zoning Plan,
- assisting the Department of the Arts, Sport, the Environment, Tourism and Territories with the drafting and passage of the *Great Barrier Reef Marine Park Amendment Bill* through Parliament,
- assisting in arranging the delegation of powers from the Department of the Arts, Sport, the Environment, Tourism and Territories to the Authority for the operation of the Sea Installations Act in the Marine Park. This will streamline the operation of this Act,
- assisting in the development of a Memorandum of Understanding with the Department of Arts, Sport, the Environment, Tourism and Territories that will streamline the operation of the *Environment Protection (Impact of Proposals) Act* and provide for the delegation of certain powers to the Chairman,
- organising the 14th Meeting of the Great Barrier Reef Ministerial Council (26/27 April),
- co-ordinating the development of a Government policy and its announcement by the Minister of a 2 year moratorium on further floating hotel development in the Marine Park,
- through the Chairman's position as President of the Australian Committee for IUCN, achieving a great increase in co-operation between government and non government organisations involved in nature conservation programs throughout Australia.

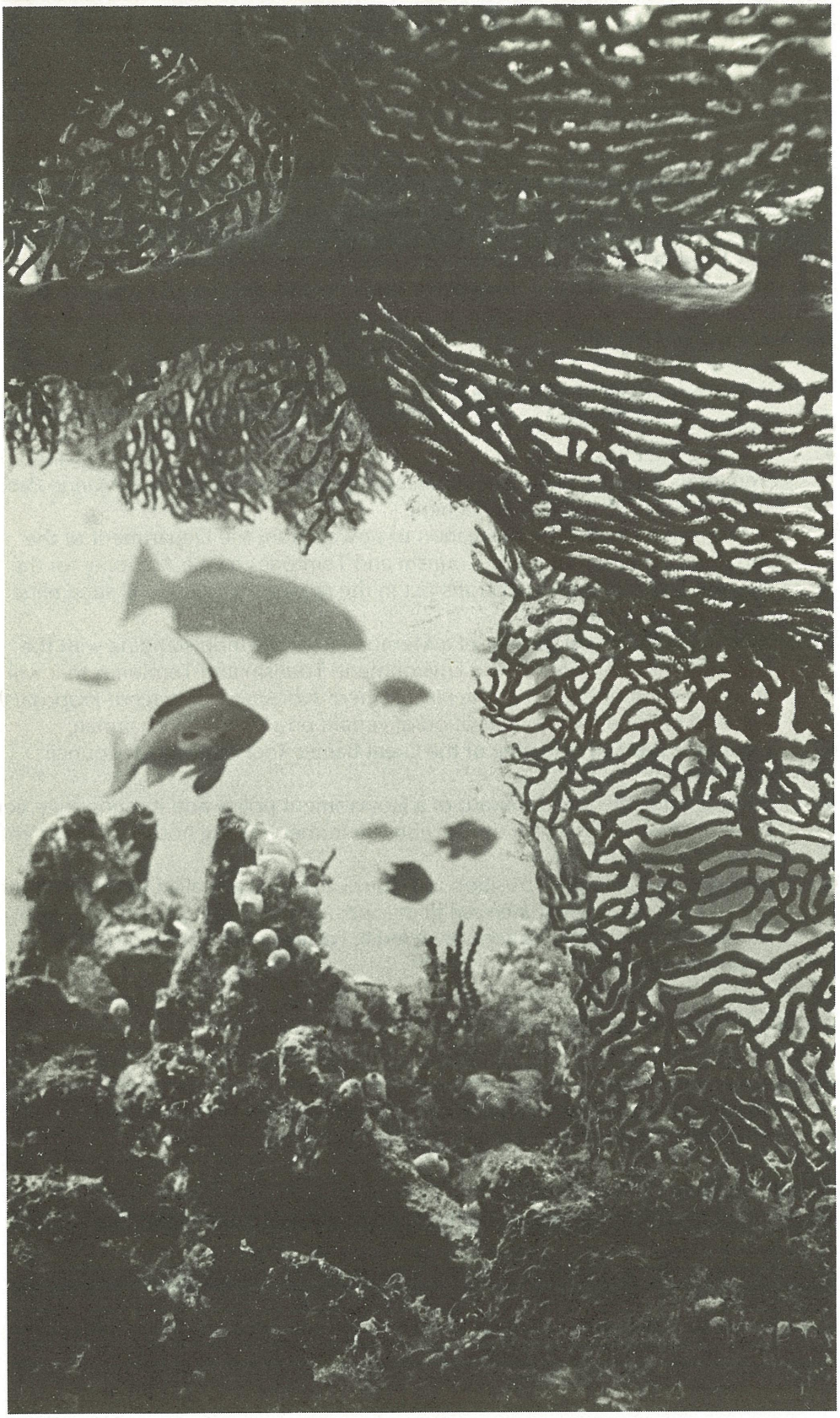
PERFORMANCE INFORMATION

Efficiency is defined as:

quality and timeliness of advice and correspondence to the Minister, Chairman, Parliamentary Committees and other organisations

Effectiveness:

- Extent to which deadlines, statutory and Ministerialequirements are compiled.
- Extent to which Authority goal and aims are taken into account by other Government organisations.
- Extent to which the implementation of Authority programs being undertaken by other Sections are assisted



A gorgonian coral gracefully frames the passing parade of fish. (Photo: Wade Hughes)

APPENDIX A
AUTHORITY FUNCTIONS

The functions of the Authority, defined in sections 7 and 7A of the Act, as amended in December 1988, are as follows:

(a) to make recommendations to the Minister in relation to the care and development of the Marine Park including recommendations, from time to time, as to -

  (i) the areas that should be declared to be parts of the Marine Park; and

  (ii) the regulations that should be made under this Act;

(b) to carry out, by itself or in co-operation with other institutions and persons, and to arrange for any other institutions or persons to carry out, research and investigations relevant to the Marine Park;

(c) to prepare zoning plans for the Marine Park in accordance with Part V;

(ca) to furnish information and advice to the Minister in respect of matters relating to the Marine Park, including -

  (i) information and advice in relation to any agreement (including any proposed agreement) between the Commonwealth and Queensland on such matters;

  (ii) information and advice on the following matters:

    (A) whether the Commonwealth should grant financial assistance to Queensland in respect of a matter relating to the Marine Park;
    (B) the amount and allocation of such assistance;
    (C) the terms and conditions (if any) on which such assistance should be granted; and

  (iii) information and advice on the following matters:

    (A) whether it is desirable that Queensland should make a payment to the Authority in respect of a matter relating to the Marine Park;
    (B) the amount and allocation of such payment;
    (C) the terms and conditions (if any) on which such payment should be given;

(cb) to receive and disburse moneys appropriated by the Parliament for payment to

(cc) to receive and disburse moneys paid to the Authority by Queensland under an agreement between -

(i) the Commonwealth and Queensland;
(ii) Queensland and the Authority; or
(iii) the Commonwealth, Queensland and the Authority;

(cd) to provide, and arrange for the provision of educational, advisory and informational services relating to the Marine Park;

(d) such functions relating to the Marine Park as are provided for by the regulations;

(da) to provide assistance to other institutions and persons in accordance with section 7A; and

(e) to do anything incidental or conducive to the performance of any of the foregoing functions.

(1A) For the purposes of this section but without limiting the generality of paragraph (1) (ca), (cb) or (cd), a matter shall be taken to relate to the Marine Park if it relates to:

(a) the use or management of an area (which may be a Queensland nationa park or a Queensland marine park) the use or management of which would or might affect the Marine Park; or

(b) the use of a place outside the Marine Park for a purpose relating to the Marine Park.

(1B) The Authority is responsible for the management of the Marine Park.

(2) The Authority shall perform its functions in accordance with any general directions given by the Minister not inconsistent with this Act.

(3) The Authority shall include in each report prepared under section 63M of the Audit Act 1901 particulars of any directions given by the Minister under sub-section (2) during the period to which the report relates.

7A.(1) Subject to this section, the Authority may, at the request of another institution or person, provide assistance to the institution or person in matters relating to environmental management.

(2) The assistance may be provided by the Authority acting by itself or in co-operation with other institutions and persons.

(b) the provision of educational, advisory or informational services;

(c) the making available of facilities.

(4) The Authority shall not perform a function that the Authority has only because of this section unless the Minister has approved, in writing, the provision of the assistance concerned.

(5) The Minister shall not give an approval under subsection (4) unless the Minister is satisfied that the provision of the assistance concerned is not likely to affect adversely the performance of the functions of the Authority conferred by other provisions of this Act.

(6) An approval under subsection (4) may be given subject to conditions or restrictions set out in the instrument of approval (including conditions requiring the charging of fees).

(7) Nothing in this section limits the functions that may be conferred on the Authority by the regulations.

APPENDIX B
CONSULTATIVE COMMITTEE FUNCTIONS

The functions of the Consultative Committee, defined in section 21 of the Act, are as follows:

(a) to furnish advice to the Minister, either of its own motion or upon request made to it by the Minister, in respect of matters relating to the operation of this Act; and

(b) to furnish advice to the Authority in respect of matters relating to the Marine Park, including advice as to the areas that should be parts of the Marine Park, referred to it by the Authority.'

APPENDIX C
AUTHORITY SENIOR OFFICERS

Mr Graeme Kelleher, AM (Chairman)

Townsville Office:

Dr Don Kinsey (Executive Officer)

Richard Kenchington (Assistant Executive Officer, Planning and Management)

Simon Woodley (Assistant Executive Officer, Environmental Impact Management)

Dr Wendy Craik (Assistant Executive Officer, Research and Monitoring)

Ray Neale (Assistant Executive Officer, Education and information)

Ian Burston (Assistant Executive Officer, Aquarium)

Bernard Linehan (Acting Assistant Executive Officer, Administration)

Canberra Office:
Peter Ottesen (Assistant Executive Officer)

APPENDIX D
PUBLICATIONS

WORKSHOP SERIES (ISSN 0156-5842)

Workshop on Nutrients in the Great Barrier Reef Region. C L Baldwin (ed). Townsville, GBRMPA, 1988. (Workshop Series No. 10) 191p. ISBN 0 642 12016 1

Fringing Reef Workshop: Science , Industry and Management. C L Baldwin (ed). Townsville, GBRMPA, 1987. (Workshop Series No. 9) 280p. ISBN 0 642 52633 8

Traditional Knowledge of the Marine Environment in Northern Australia. F Gray and L Zann (eds). Townsville, GBRMPA, 1988. (Workshop Series No. 8) 196p. ISBN 0 642 52609 5

Workshop on the Offshore Effects of Cyclone Winifred. I M Dutton (ed). Townsville, GBRMPA, 1986. (Workshop Series No. 7) 111p. ISBN 0 642 52529 3

Workshop on Response to Hazardous Chemical Spills in the Great Barrier Reef Region: Proceedings of a Workshop held in Townsville, 3 August 1984. G J S (Wendy) Craik (ed). Townsville, GBRMPA, 1985. (Workshop Series No . 6) 107p. ISBN 0 642 52409 2

Workshop on Contaminants in Waters of The Great Barrier Reef: Proceedings of a Workshop held at Griffith University, Brisbane, Australia, 26 May 1984. I M Dutton (ed). Townsville, GBRMPA, 1985. (Workshop Series No. 5) 43p. ISBN 0 642 52401 7

Papers and Proceedings of the Workshop 'Tourism and the Great Barrier Reef' held in Mackay 9-11 April, 1979. Townsville, GBRMPA, 1981. (Workshop Series No. 4) 182p. ISBN 0 642 52273 1

Workshop on Coral Trout Assessment Techniques held at Heron Island, 21 April-4 May, 1979. Townsville, GBRMPA, 1979. (Workshop Series No. 3) 85p. Reprinted 1985

Workshop on Reef Fish Assessment and Monitoring held at Heron Island, 18-28 November, 1978. Townsville, GBRMPA, 1978. (Workshop Series No. 2) 64p. Reprinted 1985.

Workshop on the Northern Sector of the Great Barrier Reef: Papers and Proceedings of a Workshop held in Townsville, 20-21 April, 1978. Townsville, GBRMPA, 1978. (Workshop Series No. 1) 462p. ISBN 0 642 91150 9. Reprinted August 1983.

TECHNICAL MEMORANDUM/REPORT SERIES (ISSN 0817-6094)/(ISSN 0814-98224)

Social Carrying Capacity in Recreational Settings: a Literature Review. M Watson. Townsville, GBRMPA, 1988. (GBRMPA-TM-17) 84p. ISBN 0 642 12001 3

Sedimentary Framework of Mainland Fringing Reef Development, Cape Tribulation Area. D P Johnson and R M Carter. Townsville, GBRMPA, 1987. (GBRMPA-TM-14) 37p. ISBN 0 642 12000 5

Aquarium Fishes and Their Collection in the Great Barrier Reef Region. Michael Whitehead et al. Townsville, GBRMPA, 1986. (GBRMPA-TM-13) 39p

GBRMPA-TM-12 in preparation.

An Atlas of the Skeletal Components of the Crown of Thorns Starfish. P D Walbran. Townsville, GBRMPA, 1987. (GBRMPA-TM-11) 42p. ISBN 0 642 52641 9

Geomorphological Separability, Landsat MSS and Aerial Photographic Data: Heron Island, Great Barrier Reef. D Kuchler. Townsville, GBRMPA, 1987. (GBRMPA-TM-10) 12p. ISBN 0 642 52569 2

Reef Cover and Zoning Classification System for Use with Remotely Sensed Great Barrier Reef Data: User Guide and Handbook. D Kuchler. Townsville, GBRMPA, 1987. (GBRMPA-TM-9) 32p. ISBN 0 642 52561 7

Geomorphological Nomenclature: Reef Cover and Zonation on the Great Barrier Reef. D Kuchler. Townsville, GBRMPA, 1986. (GBRMPA-TM-8) 35P. ISBN 0 642 52521 8

Reef Cover Zonation Classification System for Use with Remotely Sensed Great Barrier Reef Data. D Kuchler. Townsville, GBRMPA, 1986. (GBRMPA-TM-7) 72p. ISBN 0 642 52513 7

Age Structure of the Fantome Island Fringing Reef. D P Johnson. Townsville, GBRMPA 1985. (GBRMPA-TM-6) 26p.

Report of Scientific Discussion Meeting on the Physical Oceanography of the Great Barrier Reef Region held at the University of New South Wales 5-6 July, 1982. Jason H Middleton. Townsville, GBRMPA, August 1983. (GBRMPA-TM-5) 42p.

Amateur Fishing on the Great Barrier Reef. Wendy Craik. Townsville, GBRMPA, 1979. (GBRMPA-TM-4) 19p.

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Fisheries Factors Affecting Marine Park Management. Wendy Craik. Townsville, GBRMPA, 1978. (GBRMPA-TM-2) 30p.

Research on Fishes of the Great Barrier Reef. Wendy Craik. Townsville, GBRMPA, 1978. (GBRMPA-TM-1). 30p.

Management of Dugong: an Endangered Marine Species of Traditional Significance. C L Baldwin. Townsville, GBRMPA, 1985. (GBRMPA-TR-1) 24p. ISBN 0 642 52441 6. Reprinted 1987.

SPECIAL RESEARCH PUBLICATION SERIES (ISSN 0810-6983)

Guide to the Identification of Seagrasses in the Great Barrier Reef Region. Janet Lanyon. Townsville, GBRMPA, 1986. [Cover title: Seagrasses of the Great Barrier Reef] (Special Publication Series No. 3) 54p. ISBN 0 642 52489 0

Fisheries of the Great Barrier Reef. Tor Hundloe. Townsville, GBRMPA, 1985. (Special Publication Series No. 2) 158p. ISBN 0 642 52417 3

Annotated Checklist of the Coral Reef Fishes in the Capricorn-Bunker Group Great Barrier Reef. Barry C Russell. Townsville, GBRMPA, August 1983. [Cover title: Checklist of Fishes,
RESEARCH PUBLICATIONS

Usage of Marine Resources by Aboriginal Communities on the East Coast of Cape York

Peninsula. Andrew Smith. Townsville, GBRMPA, March 1989. 137p. ISBN 0 642 12025 0

Great Barrier Reef Tourism. A Review of Visitor Use. S M Driml. Townsville , GBRMPA, 1987. 50p. ISBN 0 642 52689 3

A User-Based Evaluation of the Zoning Plan and Day-to-Day Management in the Capricornia Section of the Great Barrier Reef Marine Park. Environment Science and Services. Townsville, GBRMPA, 1987. 53p. ISBN 0 642 52657 5

Economic Impacts of Activities on the Great Barrier Reef. S Driml. Townsville, GBRMPA, 1987. 86p. ISBN 0 642 52649 4

The Application and Potential of Remote Sensing in the Great Barrier Reef Region. David L B Jupp. Townsville, GBRMPA, 1986. 56p. ISBN 0 642 52449 1

Data Review of Reef Related Tourism, 1946-1980. Australian Travel Industry Association (Queensland Board). Townsville, GBRMPA, June 1984. 120p. ISBN 0 642 52353 3

Australian Marine Research in Progress: Great Barrier Reef Region. Townsville, GBRMPA. ISSN 0815-0087. Issues for 1984-85 and 1985-86.

Research Report 1976-82. Townsville, GBRMPA, 1983. ISBN 0 642 52345 2

Green Island Economic Study. Economic Associates Australia. Townsville, GBRMPA, June 1983. 68p. ISBN 0 642 52337 1

MISCELLANEOUS PUBLICATIONS

Discover the Great Barrier Reef Marine Park. Compiled by Lesley Murdoch, GBRMPA. Bay Books, Sydney, 1989.

Discovering Coastal Queensland. Queensland Department of Geographic Information and Great Barrier Reef Marine Park Authority. University of Queensland Press, St Lucia, Queensland, 1988.

Project Reef-Ed: Great Barrier Reef Educational Activities. Ann Byrnes et al. GBRMPA, Townsville, 1988.

Great Barrier Reef Aquarium. A special feature of *Australian Science Mag.* Compiled by Elaine Eager and Kirk Peterson, GBRMPA. Joint publication with Darling Downs Institute Press, Toowoomba, 1988.

Australian Marine Research in Progress. Australian Institute of Marine Science, Commonwealth Scientific & Industrial Research Organization, Great Barrier Reef Marine Park Authority and Victorian Institute of Marine Sciences. Issues for 1985, 1988.

Australian Tropical Marine Science and Technology: Current Status and Opportunities. A report prepared and published by the Australian Marine Sciences and Technologies Advisory Committee in collaboration with others including GBRMPA, [1988].

Coral Reef Management Handbook. R A Kenchington and Brydget E T Hudson (eds). UNESCO, Jakata, Indonesia, 1984. 2nd edition 1988.

The Crown of Thorns Starfish. A special feature of *Australian Science Mag.* Leon Zann and Elaine Eager, GBRMPA, (eds). Joint publication with Darling Downs Institute Press, Great Barrier Reef Marine Park Capricornia Section] (Special Publication Series No.1) 48p. ISBN 0 642 52313 4 Toowoomba, 1987.

Junior Survival: the Great Barrier Reef. Published for the Great Barrier Reef Marine Park Authority by the Gould League of Victoria Inc. with the assistance of the Australian Conservation Foundation, Melbourne, 1984. Revised 1987.

The Richest Reef. Young Australia Reader Series: Thomas Nelson, Australia and the Great Barrier Reef Marine Park Authority, Melbourne, 1983. Reprinted 1987.

Corella: Journal of the Australian Bird Study Association. Volume 9, Number 3, 1985 and Volume 10, Number 3, 1986. Special issues on Seabird Islands of the Great Barrier Reef sponsored by GBRMPA.

Oceanus: American-Australian Bicentennial Issue. Volume 29, Number 2, 1986 on the Great Barrier Reef: science & management. Woods Hole Oceanographic Institution, Massachusetts, USA.

Polyp. Geraldine Carlin. Townsville, GBRMPA, 1986. ISBN 0 724 48717 4.

Plant Life of the Great Barrier Reef and Adjacent Shores. A B Cribb and J W Cribb. University of Queensland Press, St. Lucia, Queensland, 1985.

Poetry in Pictures: the Great Barrier Reef. Mark O'Connor and Neville Coleman. Hale & Iremonger, Sydney, 1985.

A Coral Reef Handbook. Patricia Mather and Isobel Bennett (eds). The Australian Coral Reef Society, Brisbane, 1978. 2nd edition 1984.

Maps of the Great Barrier Reef: an Indexed List of Maps and Charts of the Great Barrier Reef Region. Townsville, GBRMPA, [1984]. ISBN 0 642 52361 4

Australian Marine Research in Progress. Victorian Institute of Marine Sciences, the Department of Science and Technology and the Great Barrier Reef Marine Park Authority. Issues for 1982 and 1983.

Cook, Cays and Corals: a Bibliography of Publications about the Great Barrier Reef Marine Park Cairns Section. Townsville, GBRMPA, 1982. ISBN 0 642 52297 9

Nomination of the Great Barrier Reef by the Commonwealth of Australia for inclusion in the World Heritage List. Townsville, GBRMPA, 1981. ISBN 0 642 52281 2

Bibliography of the Great Barrier Reef Province. Edgar Frankel. Canberra, AGPS, 1978. 204p. ISBN 0 642 03902 X (hardback) ISBM 0 642 03645 4 (paperback).

ZONING PLANS AND BROCHURES
(Currently Available)

Mackay/Capricorn Section Zoning Plan. Townsville, GBRMPA, December 1987. 52p. ISBN 0 642 12008 0

Great Barrier Reef Marine Park: Mackay/Capricorn Section Zoning Information: Introduction. BRA Q145, 146 and 147. Townsville, GBRMPA, 1988.

Zoning Information: Great Barrier Reef Marine Park: Mackay/Capricorn Section: Fishing. Townsville, GBRMPA, [1988].

Central Section Zoning Plan. Townsville, GBRMPA, 1987. 42p. ISBN 0 642 52553 6

Great Barrier Reef Marine Park: Central Section Zoning Information: Introduction. BRA Q 128 and BRA Q129. Townsville, GBRMPA, June 1987.

Zoning Information: Great Barrier Reef Marine Park: Central Section - Townsville/Whitsunday: Fishing. Townsville, GBRMPA, [1987].

Far Northern Section Zoning Plan. Townsville, GBRMPA, August 1985. 42p. + maps. ISBN 0 642 52433 5

Great Barrier Reef Marine Park: Far Northern Section: Introduction. Townsville, GBRMPA, February 1986.

Cairns Section Zoning Plan and the Cormorant Pass Section Zoning Plan. Townsville, GBRMPA, May 1983. 16p. + maps. ISBN 0 642 52329 0 [another edition, November 1983].

Great Barrier Reef Marine Park: Cairns Section and Cormorant Pass Section: Introduction. Townsville, GBRMPA, November 1983.

Great Barrier Reef Marine Park: Cairns Section and Cormorant Pass Section: Activities Guide. Townsville, GBRMPA, November 1983 -

1 Lizard Island Area
2 Offshore Cooktown
3 Offshore Port Douglas
4 Offshore Cairns
5 Offshore Innisfail

BROCHURES
(Currently Available)

... Ours to use wisely. Townsville, GBRMPA, July 1988. Reprinted April 1989. Also Japanese version, April 1989.

Life on the Great Barrier Reef: an Introductory Guide. Townsville, GBRMPA/Reef Biosearch, June 1988.

Coral Reefs: a Review of Some Audio-Visual Resources. Townsville, GBRMPA, December 1986 (3rd Edition). 12p.

SERIAL PUBLICATIONS

Reeflections. (ISSN 0314-6510). Magazine. No. 1, September 1977 - No. 23 April 1989.

Ebb and Flow. (ISSN 0729-0403). Education Newsletter. No. 1, December 1982 - No. 8, June 1987. (Discontinued).

Reef Notes. Joint Series GBRMPA and QDEC (ISSN 0814-9453).

Dugongs. June 1988
Shells. June 1988
Sharks. June 1988
Turtles. June 1988 (revised edition)
Captain Cook. June 1987
Larval Fishes. June 1987

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World Heritage Site. June 1987
Wrecks of the Reef. May 1987
Whales. September 1986
The Annual Coral Spawning Event on the Great Barrier Reef. July 1986
The Great Barrier Reef. July 1986
Seabirds. July 1986
Coral Cays. July 1985
Fringing Reefs . July 1985
Turtles. July 1985 (1st edition)
The Coral Polyp. February 1985
Crown of Thorns. February 1985
The Soft Touch - another View of Coral. February 1985
Reef Region Fisheries. February 1985

REEF Current Awareness Bulletin (ISSN 0813-7897). Annuals for 1983 to 1988.

ANNUAL REPORTS (ISSN 0155-8072). Issues from 1976-77 to 1988-89.

MAPS - GREAT BARRIER REEF SERIES

Mackay/Capricorn Section and Queensland Mackay/Capricorn Marine Park: Guide for Users 1: 250 000 (A1 size, coloured) July 1988 -

Whitsunday Group (BRA Q115a)
Hydrographers Passage (BRA Q116a)
The Hard Line (BRA Q117)
Northumberland Islands (BRA Q118)
Riptide Cay (BRA Q119)
Shoalwater Bay (BRA Q120)
Howard Patch (BRA Q121)
Keppel Islands (BRA Q122)
Capricornia (BRA Q123)
Lady Elliott Island (BRA Q124)

Central Section Zoning Information: Guide for Users 1: 250 000 (A1 size, coloured) [1987] -

Dunk Island (BRA Q109)
Hinchinbrook Island (BRA Q110)
Broadhurst Reef (BRA Q111)
Cleveland Bay (BRA Q112)
Hardy Reef (BRA Q113)
White Tip Reef (BRA Q114)
Whitsunday Group (BRA Q115)
Hydrographers Passage (BRA Q116)

Far Northern Section Zoning Maps 1: 250 000 (A1 size, coloured) August 1985 -

Thursday Island (BRA Q100)
Ashmore Reef (BRA Q101)
Cockburn (BRA Q102)
Weymouth Bay (BRA Q103)
Tijou Reef (BRA Q104)
Princess Charlotte (BRA Q105)
Lizard Island (BRA Q106)

MISCELLANEOUS MAPS
(Currently available)

The Great Barrier Reef Marine Park 1: 5 000 000 (A3 size, coloured) August 1988 (BRA Q148)

Companion Map to Great Barrier Reef 1: 2 200 000 (Strip map, coloured) March 1988 (BRA Q144)

Cairns Section, Great Barrier Reef Marine Park Zoning Plans - Zoning Maps (2) to (6) 1: 300 000 (A3 size, coloured) May 1983 (BRA Q51) to (BRA Q55)

POSTERS
(Currently available)

Aerial of Hardy Island Reef. 1985
Clown Fish and Anemone. 1985
Gorgonia and Feather Stars. 1985
Reef Walking at North West Island Reef. 1985
Snorkelling at Heron Island. 1985
Turret Coral. 1985
Coral Trout of the Great Barrier Reef. 1985
Dugongs. Reef Heritage Series. 1984. Joint Series GBRMPA and QDEC
Portraits of the Reef. [2 prints + notes] Robert Ingpen. Ruskin Press, October 1981

AUDIO-VISUAL PRODUCTIONS

Reef Report. Video Magazine, approximately 25 minutes. 1987 (3 issues), 1988 (3 issues), 1989 (2 issues).

A Day on the Great Barrier Reef. Video, 8 minutes. Townsville, GBRMPA, 1987.

Encounters with the Reef. Structure and Evolution of the Great Barrier Reef. 50 slides and audio cassette. Townsville, GBRMPA, 1987.

Encounters with the Reef. Video, 30 minutes. Townsville, GBRMPA, 1987.

The Crown of Thorns Story. Video, 25 minutes. Townsville, GBRMPA, 1987.

FREEDOM OF INFORMATION

Documents available for purchase through AGPS bookshops:

Current Annual Report

Nomination of the Great Barrier Reef by the Commonwealth of Australia for inclusion in the World Heritage List. GBRMPA, 1981.

Bibliography of the Great Barrier Reef Province. Edgar Frankel, 1978 .

Great Barrier Reef Marine Park Act 1975 and Regulations.

Documents available free of charge for single copies from the Authority's Townsville office:

Zoning Plans
Research Report 1976-82
Information brochures, bulletins and leaflets

Selected maps of the Great Barrier Reef Marine Park
REEF database publications
Reef Notes series
Newsletters (serial publication)
Media releases and communiques

Documents available for bulk-purchase from the Authority's Townsville office:

Posters
Various information brochures, books and audio-visual productions
Research Reports and Workshop Proceedings
Maps of Great Barrier Reef Marine Park
Small quantities may be purchased through the Great Barrier Reef Aquarium Shop.

Facilities for access:

The Townsville office holds most of the documents relating to the Authority, its Office and the Great Barrier Reef Consultative Committee. It is possible to arrange access to documents, available under provisions of the *Freedom of Information Act,* through either the Canberra or Townsville office (see addresses below), or at the State FOI Information Access Office. Staff are available to provide assistance in relation to any aspect of FOI requests.

Members of the public may make inquiries on FOI matters and inspect documents to which access has been granted at either office. Business hours, Monday to Friday, are 8.30am - 4.51pm. Formal requests for access to documents must be directed to the office listed in the following section.

Information about facilities for access by disabled persons can be obtained by contacting the FOI Officer at the Townsville office.

The following facilities for access are maintained at the Townsville office:

- computer printer
- microfiche reader
- film and slide projectors
- video and audio tape recorders
- photocopy machine
- reading room.

FOI Procedures and Initial Contact Points:

Inquiries may be made in writing, by telephone or in person at the official FOI access points listed below. Request forms are available for use in making formal FOI requests. Use of the form is not obligatory but does help to identify and process an FOI request more speedily. Formal FOI requests must be in writing. It is also suggested that enquirers give a telephone number.

Great Barrier Reef Marine Park Authority
Wonderland
2-68 Flinders St
TOWNSVILLE QLD 4810

PO Box 1379
TOWNSVILLE
QLD 4810

Telephone (077) 818811; Telex GBRMPA 47332; Fax (077) 72 6093

OR

Great Barrier Reef Marine Park Authority
2nd Floor, Gas Industry House
Cnr Moore & Rudd Streets
CANBERRA CITY ACT 2600

GPO Box 791
CANBERRA
ACT 2601

Telephone (062) 470211; Telex ARRIC 62552; Fax (062) 47 5761

If any difficulty arises in the identification of a document or in providing access in the form requested, an officer of the Authority will contact the applicant with a view to resolving the difficulty.

In consultation with applications, documents will be made available as follows:

- by mail to the address specified by the applicant
- at the official FOI access point
- at the Information Access Office, located within the regional office of Australian Archives nearest to the applicant's normal place of residence.

The authorised decision-makers under the Act for the Authority and the Consultative Committee, with official addresses for the lodging of requests, are:

The Executive Officer
Great Barrier Reef Marine Park Authority
PO Box 1379
TOWNSVILLE QLD 4810

The Secretary
Great Barrier Reef Consultative Committee
PO Box 1379
TOWNSVILLE QLD 4810

APPENDIX E
STAFF PAPERS PUBLISHED/PRESENTED IN 1988-89

Baldwin, C.L. 1988, **'The role of monitoring in Environmental Impact Assessment',** Paper presented to Annual Meeting of International Association for Impact Assessment, Griffith University, Brisbane, 5-9 July 1988.

Baldwin, C.L. 1988, **'Water quality and management in the Great Barrier Reef Marine Park',** *Water Science and Technology,* vol. 21, no. 2, pp. 267-272.

Baldwin, C.L. 1989, **'User Perception in a Multi-Use Marine Park'.** Paper presented to Institute of Australian :Geographers 23rd Conference, Adelaide, February 1989.

Baldwin, C.L. 1988, **'Managing the Great Barrier Reef: Is a Multi-Use Park Really Protecting the Environment?'** Paper presented to the Heritage Resources Centre, Waterloo, Canada, November 1988.

Baldwin, C.L., Driml, S. & Watson, K. 1988. **'A Strategy to Assess and Manage the Social Impacts of Visitors to the Great Barrier Reef Marine Park'.** Paper presented to International Association for Impact Assessment, vii Annual Meeting, 5-9 July 1988, Brisbane.

Bastin, J. & McGinnity, P. 1988, '**Impact assessment case study: The Floating Hotel at John Brewer Reef',** Paper presented to VII Annual Meeting of International Association for Impact Assessment, Griffith University, Brisbane, 5-9 July 1988.

Bastin, J.M. 1988, '**Measuring areas of coral reefs using satellite imagery',** Paper presented to Symposium on Remote Sensing of the Coastal Zone, Gold Coast, Qld, 7-9 September 1988.

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Craik, W. 1989, **'Reef fish in the Great Barrier Reef region',** Paper presented to The Effects of Fishing Workshop, Magnetic Island, 20-24 February 1989.

Elliott, A. & Dartnall, J. 1988, '**Controlling a slide collection - a simple but flexible system',** *Australian Special Libraries News,* vol. 21, no. 3, pp. 99-102.

Fisk, D.A., Harriott, V.J. & Pearson, R.G. 1988, **The history and status of crown of thorns starfish and corals at Green Island Reef, Great Barrier Reef,** *Proceedings of the 6th International Coral Reef Symposium, Townsville,.1988.*

Glazebrook, J.S., Hoey, J.R. & Campbell, R.S.F. 1988, **'Diseases recorded on the Great Barrier Reef and management of tropical marine aquaria',** Paper presented to Fish Diseases: Refresher Course for Veterinarians, Proceedings no. 106, University of Sydney, 23-27 May 1988.

Harriott, V.J. & Fisk, D.A. 1988, **'Recruitment patterns of scleractinian corals: a study of three reefs',** *Australian Journal of Marine and Freshwater Research,* vol. 39, pp. 409-416.

Harriott, V.J. & Fisk, D.A. 1988, **Coral transplantation as a reef management option,** *Proceedings of the 6th International Coral Reef Symposium, Townsville, .1989.*

Jones, Martin 1989, **'Great Barrier Reef Aquarium, Townsville, Queensland',** *Austasia Aquaculture Magazine,* vol. 3, no. 9, pp. 9-11.

Kelleher, Graeme 1989, **'Floating hotels on the Great Barrier Reef',** Paper presented to the Coastal Ocean Space Utilization Program, New York, May 1989.

Kelleher, Graeme 1989, **'The vital importance of natural resource professionals in achieving environmental sustainability.'** Address to Graduation Ceremony at Griffith University, April 1989.

Kenchington, R. 1988, **'Conservation and reasonable use of the Great Barrier Reef',** Paper presented to XXIV International Congress of Psychology, Sydney, 1 September 1988.

Kenchington, R.A. & Claasen, D. van R. 1988, **'Australia's Great Barrier Reef - management technology',** Paper presented to Symposium on Remote Sensing of the Coastal Zone, Gold Coast, 1988.

Kinsey, D.W. 1988,' **A consideration of the responses of estuarine wetlands and coral reefs; with particular emphasis on coral reefs as sinks',** Paper presented to Greenhouse 88, Cairns, November 1988.

Lassig, B.R., Baldwin, C.L., Craik, W., Hillman, S.P., Zann, L.P. & Ottesen, P. 1988, **'Monitoring the Great Barrier Reef',** Paper presented to the 6th International Coral Reef Symposium, Townsville, 1988.

Morrissey, J., Jones, M.S. & Harriott, V.J. 1988, **'Nutrient cycling in the Great Barrier Reef Aquarium',** Paper presented to the 6th International Coral Reef Symposium, Townsville, August 1988.

Neale, R.J. 1989, **'Directions and developments of interpretation taken by the Great Barrier Reef Marine Park Authority',** Paper presented to National Interpretation Workshop, Alice Springs, 1-5 May 1989.

Neale, R.J. 1989, **'Marketing 'Wise Use'** - the conservation message of the Great Barrier Reef Marine Park Authority', Paper presented to National Interpretation Workshop, Alice Springs, 1-5 May 1989.

Ottesen, P. 1988, **'Managing for the effects of increased activities in the Great Barrier Reef Marine Park',** Paper presented to the 5th Man's Impact on the Coastal Environment Symposium for Asia and the Pacific, Nanjing, China, 2-9 August 1988.

Smith, S.V. & Kinsey, D.W. 1988, **'Why don't budgets of energy, nutrients, and carbonates always balance at the level of organisms, reefs, and tropical oceans? An overview',** Paper presented to the 6th International Coral .Reef Symposium, Townsville, August, 1988.

Tilley, C.J. 1988, **'Marine trails in the Great Barrier Reef Marine Park',** Paper presented to the Australian Recreational Trails Conference, Adelaide, 21-24 November 1988.

van R. Claasen, D. & Kelleher, G. 1988, **'The effect of inter-regional differences on coral reef management',** Paper presented to the 6th International Coral Reef Symposium, Townsville, August, 1988.

Woodley, S.J. 1989, **'Management of water quality:Great Barrier Reef Marine Park'** *Water,* February 1989, pp 20-22.

APPENDIX F
RESEARCH IN PROGRESS 1988-89

Detailed descriptions of projects are available on the database **Australian Marine Research in Progress** (AMRIP) on CSIRONET. A special printed edition for the Great Barrier Reef Region is also published by the Authority.

* Project completed during 1988-89
\+ Augmentative Research Grant

ANALYSIS OF USE
The objectives of research in this field are to define resource utilisation of the Great Barrier Reef Region and to enable management to record the intensity, variability and periodicity of use of the Marine Park. The research includes collection of socio-economic data as well as evaluation of methods of investigation of usage.

186, 254 *Traditional uses of marine resources by Aboriginal Communities on the east coast of Cape York Peninsula: Stages 1 and 2
PROJECT LEADER: Mr A Smith (Sir George Fisher Centre for Tropical Marine Studies, Departments of Marine Biology and Behavioural Sciences, James Cook University)

255 *Shell collecting in the Great Barrier Reef Region
PROJECT LEADER: Ms B Barnett (consultant)

257 *Traditional Fisheries Workshop
PROJECT LEADER: Dr L Zann (GBRMPA)

260 The economic characteristics and significance of the Great Barrier Reef Region shell trade+
PROJECT LEADER: Miss K Herbert (Australian Environmental Studies, Griffith University)
SUPERVISORS: Dr T Hundloe, Mr J Ware

283 A preliminary review of the effects of trawling in the Great Barrier Reef Region
PROJECT LEADERS: Dr I Poiner ,
Dr K Sainsbury (CSIRO, Cleveland Marine Laboratory)

284 *Attitudes of tourists to North Queensland with emphasis on the Great Barrier Reef
PROJECT LEADERS: Dr T Hundloe,
Mr F Vanclay (Australian Environmental Studies, Griffith University)

304 *Norman Reef amenity study
PROJECT LEADER: Dr P Pearce (Behavioural Sciences, James Cook University)

334 *Dive tourism study
PROJECT LEADER: Centre for Studies in Travel and Tourism (James Cook University)

335 *Social carrying capacity in recreational settings: a literature review
PROJECT LEADER: Ms M Watson (consultant)

377 Impact of trawling - general
PROJECT LEADERS: to be determined after CSIRO report.

378 Private boat and recreational fishing program design and implementation
PROJECT LEADERS: Ms S Driml (GBRMPA),
Dr S Bandaranaike (James Cook University)

379 Attitudes monitoring program/Visitor surveys
PROJECT LEADERS: Ms S Driml, Ms C Baldwin (GBRMPA)

380 *Report on Recreation Seminar/Recreational Carrying Capacity Review
PROJECT LEADER: Ms M Watson (consultant)

381 Review of published and unpublished information on reef fishes of commercial and recreational fishing interest in the Great Barrier Reef Region
PROJECT LEADERS: Prof. J H Choat, Dr G Russ (James Cook University), Dr D Williams (AIMS)

382 Evaluating island landscapes Heron Island - a case study+
PROJECT LEADER: Ms M Donahoe (University of Queensland)
SUPERVISOR: Dr G Hill

BIOLOGY

Biological research is undertaken to increase our understanding of the ecosystems of the Great Barrier Reef Region and involves studies on many aspects of the reef environment. Work undertaken involves bird, dugong and turtle research as well as the obvious fields of fish and coral investigations. The Authority has a mandate to protect the health of the Reef and biological research is fundamental to this task. Much of the work is new and research has had to be carried out to determine methods of survey suitable for the task at hand and to assess the suitability of existing techniques.

124 The effects of fuel oil, oil emulsifier, and lower salinity upon the common Indo-Pacific reef coral *Acropora formosa*
PROJECT LEADERS: Dr P Harrison, Dr C G Alexander, Dr J D Collins (Sir George Fisher Centre for Tropical Marine Studies, and Marine Biology, James Cook University)

163, 225 *Methods for re-establishment of hard corals in denuded reef systems
PROJECT LEADER: Dr V Harriott (Sir George Fisher Centre for Tropical Marine Studies, and Marine Biology, James Cook University)

165 Coral reef metabolism and calcification
PROJECT LEADERS: Assoc Prof M Pichon, Dr J Morrissey (Marine Biology, James Cook University)

177 Analysis of fish tagging data
PROJECT LEADER: Mr R Giddins (consultant)
200 Demersal reef fish study
PROJECT LEADERS: Mr R Pearson, Dr G Goeden (Fisheries Research, Queensland Department of Primary Industries)

201 Giant clam study
PROJECT LEADERS: Mr R Pearson (Fisheries Research, Qld Department of Primary Industries), Dr J Munro (James Cook University and International Centre for Living Aquatic Resource Management)

202 *Red spot king prawn by-catch study
PROJECT LEADERS: Mr R Pearson, Mr M Dredge (Fisheries Research, Qld Department of Primary Industries)

237 *Biological basis for managing populations of dugongs and other marine mammals in the Great Barrier Reef Marine Park
PROJECT LEADER: Dr H Marsh (Zoology, James Cook University)

238 Monitoring and mapping of coral spawn slicks using remote sensing techniques (Pilot Study)
PROJECT LEADERS: Dr J T Baker, Mr J Oliver, Ms B Willis (Biological Sciences, James Cook University), Dr D Kuchler (Mapping & Monitoring Technology Pty Ltd)

290 Seagrass habitat survey - southern sections of the Marine Park
PROJECT LEADER: Dr R Coles (Qld Department of Primary industries)

291 Coral Spawning Experiment (CORSPEX)
PROJECT LEADER: Ms B Willis et al. (Biological Sciences, James Cook University)

292 Reef survey of coral trout - report production
PROJECT LEADER: Dr A M Ayling (Sea Research)

294 Population dynamics of green turtles
PROJECT LEADER: Mr C Limpus (Q.DEC)

295 Trawling impact - red spot king prawn
PROJECT LEADER: Mr M Dredge (Qld Department of Primary Industries)

296 *Baseline survey - Hayman Is and Hamilton Is fringing reefs
PROJECT LEADERS: Mr R van Woesik, Mr A Steven (James Cook University)

298 Coral Trout Workshop
PROJECT LEADERS: GBRMPA , Q.DEC

299 *Norman Reef environmental study
PROJECT LEADER : Dr A M Ayling (Sea Research)

316 * Diseases in reef bivalves: particularly *Perkinsus* sp (Protozoa) in giant clams (Tridacnidae)+
PROJECT LEADER: Ms C L Goggin (Parasitology, University of Queensland)
SUPERVISORS: Dr R J Lester, Mr P Hunnam

337 Benthic survey of Low Isles (Pilot Study)
PROJECT LEADER: Mr D Fisk (Reef Research and Information Services)
338 Coral trout spawning information
PROJECT LEADER: Dr R E Johannes (CSIRO)

339 Seagrass habitat survey, Cairns to Bowen - analysis of samples
PROJECT LEADER: Dr R Coles (Qld Department of Primary Industries)

340 Oral history - Japanese divers on the Great Barrier Reef
PROJECT LEADER: Ms R Ganter (Australian Environmental Studies, Griffith University)

350 Investigation of sampling biases in manta tow surveys
PROJECT LEADER: Ms L Fernandes (Zoology, James Cook University))
SUPERVISOR: Dr H Marsh

354 Colonisation and succession of reef-flat algae at Heron Island+
PROJECT LEADER: Ms C Catterall (Botany, University of Queensland)
SUPERVISOR: Dr R Rogers

358 Sea snakes of northern Australia
PROJECT LEADER: Mr T Ward (Zoology, James Cook University)
SUPERVISOR: Dr H Marsh

361 An evaluation of the parasites of the Black Marlin and Pacific Sailfish as population markers and indicators of migratory movements+
PROJECT LEADER: Mr P Speara (Marine Biology, James Cook University)
SUPERVISOR: Prof J H Choat

369 *Monitoring health of Cairns reefs - manta tows
PROJECT LEADER: Dr A M Ayling (Sea Research)

370 *Preparation and preliminary analysis of manta tow data
PROJECT LEADER: Dr J Oliver (consultant)

371 *Design of Heron Island reef monitoring program
PROJECT LEADER: Prof J H Choat (Biological Sciences, James Cook University)

372 *Inspection of spoil dump and its effects - Heron Island boat harbour
PROJECT LEADERS: Dr M Gourlay, Dr J S Jell (University of Queensland)

373 History of dredging in Cleveland Bay and its effects on sediment movement and growth of corals, mangroves and seagrass
PROJECT LEADER: Dr A Pringle (University of Lancaster)

374 *Coordination of water quality studies
PROJECT LEADER: Dr P Bell (Chemical Engineering, University of Queensland)

383 An investigation of optimum methods and unit sizes for the visual estimation of abundances of some coral reef organisms
PROJECT LEADERS: Dr A M Ayling, Dr A L Ayling (Sea Research), Dr B Mapstone (James Cook University)

385 CORSPEX Analysis of Plankton Samples
PROJECT LEADERS: Ms B Willis, Dr J Oliver (James Cook University)

386 *Coral Health: Evaluation of a rapid test to measure depletion in energy reserves in hard corals and its applicability to reef monitoring
PROJECT LEADER: Dr V Harriott (GBRMPA)

387 Hard coral regeneration on Green Island Reef
PROJECT LEADER: Mr D Fisk (Reef Research and Information Services)

388 The distribution and abundance of cetaceans in the Great Barrier Reef Region
PROJECT LEADER: Dr H Marsh (James Cook University)

389 Monitoring impact of Whitsundays area discharges
PROJECT LEADERS: Mr R van Woesik (James Cook University), Dr T Done (Australian Institute of Marine Science)

390 *Supervision of Whitsunday water quality
PROJECT LEADER: Dr P Bell (University of Queensland)

391 Monitoring impact of dredge spoil dumping - Cairns Port Authority
PROJECT LEADER: MacDonald Wagner (consultants)

392 Heron Island spoil dump - short term monitoring and environmental effects
PROJECT LEADERS: Dr J Jell, Dr M Gourlay (University of Queensland)

393 Monitoring of Heron Island
PROJECT LEADER: Dr I Lawn (Heron Island Research Station)

394 A case history of a tourist pontoon on an outer barrier reef and on-going monitoring projects relating to marine biota
PROJECT LEADER: Ms W Richards (Reef Biosearch Pty Ltd)

395 Coordination of monitoring projects
PROJECT LEADER: Dr J Oliver (consultant)

396 Collection and analysis of amateur fishing data
PROJECT LEADER: Ms M Zann Schuster (consultant)

397 Heron Island reef and coral cay, Great Barrier Reef, Australia: A collection of historical photographs and images
PROJECT LEADER: Dr D Kuchler (Mapping and Monitoring Technology Pty Ltd)

398 Heron Island - monitoring program
PROJECT LEADER: Prof J H Connell (University of California)

399 Heron Island - monitoring program
PROJECT LEADER: Mr D Fisk (Reef Research and Information Services)

400 Determination of light profiles for Magnetic Island bays adjacent to the proposed Magnetic Quay Development
PROJECT LEADER: Mr J Brodie (James Cook University)

401 Baseline study for Daydream Island (Marina Development)
PROJECT LEADER: Mr D Fisk (Reef Research and Information Services)

402 Synoptic survey - McBrides Point
PROJECT LEADER: Marine Bio Logic

403 Monitoring impact of dredge spoil dumping - Cleveland Bay
PROJECT LEADERS: Mr B Service (Townsville Port Authority), Dr E Wolanski, Dr M Heron, Mr J Brodie (Australian Institute of Marine Science)

404 Monitoring John Brewer Reef - biological
PROJECT LEADERS: Dr P Saenger (Northern Rivers College of Advanced Education), Prof J H Choat (James Cook University)

405 Monitoring John Brewer Reef - Human Use
PROJECT LEADERS: Dr P Saenger, Mr I Dutton (Northern Rivers College of Advanced Education), Mr P Valentine (James Cook University) Ms K Watson (Consultant)

406 Baseline study for Environmental Monitoring Program: Magnetic Quay Development - benthic communities, water quality turbidity/sediments
PROJECT LEADER: Marine Biology Department (James Cook University)

407 Biological calibration study for Environmental Monitoring Program: Magnetic Quay Development
PROJECT LEADER: James Cook University

408 Baseline environmental study: proposed site day trip pontoon Wistari Reef
PROJECT LEADER: Mr J Thorogood (Fisheries Research Consultants)

409 Biotic factors influencing the population dynamics of selected species belonging to an alcyonarium (Cnidaria: Octocorallia) community on the Great Barrier Reef+
PROJECT LEADER: Ms J Griffith (University of Queensland)
SUPERVISOR: Dr R Endean

410 The effects of sediments on corals at Magnetic Island+
PROJECT LEADER: Ms S Seddon (James Cook University)
SUPERVISORS: Prof J H Choat, Dr R Babcock

410 Comparative biology and ecology of leiognathid species found in Cleveland Bay and environs+
PROJECT LEADER: Ms A Cabanban (James Cook University)
SUPERVISORS: Prof J H Choat, Dr A Robertson

411 Caridea and Penaeidae associated with Green Island seagrass meadows+
PROJECT LEADER: Mr L McKenzie (James Cook University)
SUPERVISOR: Prof J H Choat

412 Population biology and distribution of *Porites* around Magnetic Island
PROJECT LEADER: Ms K Walker (James Cook University)
SUPERVISOR: Dr J D Collins

413 Experimental culture of the Great Barrier Reef scallop, *Amusium balloti*
PROJECT LEADER: Mr N Connolly (James Cook University)
SUPERVISORS: Assoc Prof J S Lucas, Dr R Braley

ENVIRONMENTAL DESIGN

These studies are used to specify development strategies for the utilisation of the resources of the Marine Park that are compatible with the conservation of the Reef and its resources. Work to date has concentrated on off-shore structures and developments.

INFORMATION SYSTEMS

These systems are used for the collection, storage and, most importantly, the dissemination of information. Data includes reef related physical and biological information, geographical data, information on research in progress as well as permits and representations data.

117 Australian Marine Research in Progress (AMRIP)
PROJECT LEADERS: Australian Institute of Marine Science, Great Barrier Reef Marine Park Authority, Victorian Institute of Marine Sciences, Information Resources Unit (CSIRO)

345 Bibliography of marine parks
PROJECT LEADER: Ms J Dartnall (consultant)

347 Conversion of Great Barrier Reef Resource inventory to data base format
PROJECT LEADER: Australian Littoral Society

348 Great Barrier Reef Resource inventory, Cairns Section
PROJECT LEADER: Australian Littoral Society

349* Revision of the James Cook University Gazetteer
PROJECT LEADER: Australian Littoral Society

414 A survey of public awareness levels: Mackay/ Capricorn Section of the Great Barrier Reef Marine Park
PROJECT LEADER: Survey Research and Consultancy Unit (University of Queensland)

415 Draft production of oil slick identity pamphlet
PROJECT LEADER: Mr B Kettle (Marine Bio Logic)

416 Digitising of manta tow maps
PROJECT LEADER: Dr J Oliver (consultant)

MANAGEMENT STRATEGIES

The program aims to evaluate the effectiveness of current and alternate strategies for the management of the Marine Park consistent with conservation of the resources of the area. Studies include risk analysis of activities that occur in the park such as shipping as well as review of the zoning plans to determine whether objectives are being met.

288 Fringing reef studies including fish study
PROJECT LEADERS: Mr S Domm (Q.DEC), Mr R van Woesik, Mr A Steven (James Cook University)

289* Research and its role in assisting management of the Great Barrier Reef Marine Park
PROJECT LEADER: Ms M Watson (consultant)

133, 293 Monitoring Replenishment Areas: Stages 1 and 2
PROJECT LEADER: Mr K Beinssen (Q.DEC)

417 Workshop for Scientific Support Coordinators
PROJECT LEADERS: Mr I Dutton (NRCAE), GBRMPA, DOTC

418 Research and Monitoring Section Review
PROJECT LEADER: Ms M Watson (consultant)

419 Staff/Researcher Conference
PROJECT LEADER: Ms M Watson (consultant)

420 Oil spill strategic atlas - assessment of an appropriate system
PROJECT LEADER: Mr B Kettle (Marine Bio Logic)

421 Magnetic Island Management Plan
PROJECT LEADERS: GBRMPA, Marine Bio Logic, Townsville City Council, Gutteridge, Haskins & Davey

MARINE CHEMISTRY

Chemical analysis of the Great Barrier Reef environment is necessary to determine the background concentrations and distribution of possible contaminants of the environment. This allows the assessment of impacts of pollutants such as organochlorine pesticides.

300 *Waste water disposal guidelines
PROJECT LEADERS: Dr P Bell, Dr P Greenfield (University of Queensland), Dr D Connell, Dr D Hawker (Griffith University)

342 Water quality and the effect of seasonal change - Trinity Inlet to Green Island
PROJECT LEADERS: Dr F Thomas, Assoc Prof D Yellowlees (Chemistry, James Cook University)

343* Dissolved and particulate nutrient concentrations in waters of the Whitsunday Island group
PROJECT LEADER: Dr M Furnas (Australian Institute of Marine Science)

359 Phosphorus metabolism in corals+
PROJECT LEADER: Ms A Jackson (Chemistry, James Cook University)
SUPERVISOR: Assoc Prof D Yellowlees

422 Nitrogen and phosphorus budgets for Great Barrier Reef shelf waters
PROJECT LEADER: Dr M Furnas (Australian Institute of Marine Science)

423 Green Island water quality - pilot
PROJECT LEADER: Mr J Brodie (James Cook University)

MARINE GEOSCIENCES

There is a need for understanding of the processes which formed the Great Barrier Reef so that contemporary development and degradation can be placed in perspective. The research includes analysis of sediments, growth rates of reefs and study of the processes of degradation of senile reefs.

151 Biologic reef destruction - products, rates and causes
PROJECT LEADERS: Dr P A Hutchings (Australian Museum), Dr P J Davies (Bureau of Mineral Resources), Mr W Kiene (Geology, Australian National University)

152 Coastal processes forming and maintaining the coral cays of the Great Barrier Reef and their implications for Marine Park Management
PROJECT LEADER: Dr M Gourlay (Civil Engineering, University of Queensland)

153 Stratigraphy of lagoon sediments and reef margins - Lady Musgrave Island
PROJECT LEADER: Assoc Prof C V G Phipps (Geology and Geophysics, University of Sydney)

232* Coral recruitment on fringing reefs near Cape Tribulation
PROJECT LEADER: Mr D Fisk (Reef Research and Information Services)

233 Monitoring of Cape Tribulation fringing reefs
PROJECT LEADER: Dr A M Ayling (Sea Research)

234 Effects of disturbed rainforest catchments on adjacent fringing reefs - Cape Tribulation++
PROJECT LEADERS: Assoc Prof D Hopley, Mr D Hoyal and Mr B Partain (James Cook University)

344 The importance of siltation and sedimentation resuspension on reefal development in the Whitsunday Islands area+
PROJECT LEADERS: Dr D Johnson, Mr S Blake (Geology, James Cook University)

351 The effects of sediment and turbidity on reef corals and implications for monitoring+
PROJECT LEADER: Ms M Stafford Smith (University of York)
SUPERVISOR: Dr R F G Ormond (Tropical Marine Research Unit, University of York)

OCEANOGRAPHY
Studies of wave patterns, tides and currents in the Region allow better understanding of the processes by which larvae and pollutants are dispersed throughout the Region. Modelling work will allow better prediction of dispersal patterns and the inter-connectivity of reefs.

150 * Flow modelling in the central Great Barrier Reef Region - a collaborative research project
PROJECT LEADERS: Dr J C Andrews (Australian Institute of Marine Science), Dr L Bode (Civil and Systems Engineering, James Cook University)

191b *Installation of tide gauges: collaborative research
PROJECT LEADERS: Dr J C Andrews (Australian Institute of Marine Science), Dr L Bode (Civil and Systems Engineering, James Cook University), Mr T Savory (Bureau of Meteorology)

229 Establishment of remote weather stations on the Great Barrier Reef
PROJECT LEADER: Dr J C Andrews (Australian Institute of Marine Science)

230 *Influence of coral reefs on wave attenuation and circulation
PROJECT LEADER: Dr I Young (RMC Duntroon)

302 Physical oceanography review
PROJECT LEADERS: Prof G Pickard, Dr J C Andrews (Australian Institute of Marine Science)

346 Review of physical oceanographic models and their application to management
PROJECT LEADER: Dr R Steedman (consultant)

424 Zoning needs: Identification of sink and source reefs in Cairns Section
PROJECT LEADER: Mr I Dight (James Cook University)

425 Provision of advice on oceanographic and engineering matters
PROJECT LEADER: Marine Modelling Unit (James Cook University)

426 Small-scale and inter-reef dispersal of larvae, pollutants and nutrients on the Great Barrier Reef
PROJECT LEADER: Dr K Black (Victorian Institute of Marine Sciences)

SURVEY AND BATHYMETRY
The objective of these projects is to provide detailed charts and maps of the Great Barrier Reef Region and to establish the ability of remote sensing to assist in classifying the area. Work has taken place using both aerial and satellite survey methods.

198 Spectographic analysis of reef features
PROJECT LEADERS: Dr D Jupp (CSIRO, Division of Water and Land Resources), Dr D Kuchler (Mapping and Monitoring Technology Pty Ltd)

285 The Northeast Australian Satellite Imagery System (NASIS)
PROJECT LEADERS: James Cook University, Australian Institute of Marien Science, Great Barrier Reef Marine Park Authority, Commonwealth Scientific & Industrial Research Organization, Qld Department of Mapping and Surveying

286 *Australian Survey Office joint reef survey
PROJECT LEADER: Australian Survey Office

CROWN OF THORNS STARFISH
This is the program of research funded following recommendations by the Crown of Thorns Starfish Advisory Committee (COTSAC) in its report of January 1985

210 *Role of *Acanthaster planci* in reef degradational processes: historical perspective and current influence
PROJECT LEADER: Assoc Prof R A Henderson (Geology, James Cook University)

270 *Survey of crown of thorns starfish predators on or in the vicinity of reefs of the Great Barrier Reef
PROJECT LEADERS: Assoc Prof R Endean, Dr A Cameron and Dr H McCallum (Zoology, University of Queensland)

271 The relationships between crown of thorns starfish outbreaks and water mass characteristics in the Great Barrier Reef
PROJECT LEADERS; Mr D van R Claasen, Dr L Zann (GBRMPA), Ms E Coumbis (consultant)

272 Potential human causes of *Acanthaster planci* aggregations in the South Pacific
PROJECT LEADERS: Dr L Zann (GBRMPA), Ms G Brodie (University of the South Pacific, Fiji), M K Weaver, Mr G Andrews (consultants)

273 Socio-economic consequences of major populations of crown of thorns starfish
PROJECT LEADER; Dr T Hundloe (Australian Environmental Studies, Griffith university)

274 Biological and economic risk analysis study to contribute to assessment of the need for control of crown of thorns stariish
PROJECT LEADERS: Dr T Hundloe, Dr J Parslow (Australian Environmental Studies, Griffith University)

275 * Oral history of human use and experience of crown of thorns starfish on the Great Barrier Reef
PROJECT LEADERS: Dr A Chase, Ms R Ganter (Australian Environmental Studies, Griffith University)

276 Studies of disease of the crown of thorns starfish
PROJECT LEADER: Prof R S F Campbell, Dr J Glazebrook (Tropical Veterinary Science, James Cook University)

277 *Identification of bacterial populations associated with crown of thorns starfish and assessment of their role in the ecology of this starfish
PROJECT LEADER: Dr D C Sutton (Sir George Fisher Centre for Tropical Marine Studies, James Cook University)

278, 333 Trial controls of crown of thorns starfish on the Great Barrier Reef
PROJECT LEADERS: Dr L Zann, Ms K Weaver (GBRMPA)

280 Population dynamics of crown of thorns starfish on Suva Barrier Reef
PROJECT LEADERS: Mr J Brodie (University of the South Pacific, Fiji) Dr L Zann (GBRMPA)

281 Monitoring juvenile crown of thorns starfish on the Great Barrier Reef (pilot study)
PROJECT LEADER: Mr R Bell (consultant)

321 Chemical pathways:
PROJECT LEADER; Dr R B Johns (Organic Chemistry, University of Melbourne)

322 Mainland run-off hypothesis (land use)
PROJECT LEADER: Assoc Prof D Hopley, Mr P Valentine, Ms C Rasmussen (Sir George Fisher Centre for Tropical Marine Studies, James Cook University)

324 Crown of thorns starfish sighting survey
PROJECT LEADER: Dr L Zann (GBRMPA)

325 *Crown of thorns starfish video
PROJECT LEADER: Dr L Zann (GBRMPA)

326 *Crown of thorns starfish booklet
PROJECT LEADER: Dr L Zann (GBRMPA)

327 Use of infra red photography for monitoring effects of *A. planci* outbreaks
PROJECT LEADER: Assoc Prof D Hopley (Sir george Fisher Centre for Tropical Marine Studies, James Cook University)

328 *Fish predator study - gut contents
PROJECT LEADERS: Prof J H Choat, Mr R Birdsey (Marine Biology, James Cook University), Mr P Matthew (consultant)

329 Consequences of commercial fishing (analysis of catch)
PROJECT LEADERS: Prof J H Choat, Mr A Steven (Marine Biology, James Cook University)

330 Abundance and distribution patterns of *Acanthaster planci* on the Great Barrier Reef
PROJECT LEADER: Dr A M Ayling (Sea Research)

331 Information base and pilot study for an interdisciplinary study of Green Island
PROJECT LEADERS: Prof J H Choat, Mr I Baxter (Marine Biology, James Cook University)

356 Application and assessment of methods for ageing crown of thorns starfish+
PROJECT LEADER: Mr R Stump (Zoology, James Cook University)
SUPERVISOR: Assoc Prof J S Lucas

364 An interdisciplinary research and monitoring program to determine the consequences and possible causes of *Acanthaster planci* infestations at Green Island
PROJECT LEADERS: Prof J H Choat, Assoc Prof D Hopley (Marine Biology and Sir George Fisher Centre for Tropical Marine Studies, James Cook University)

365 *An assessment of the impact of crown of thorns starfish outbreaks on commercial fisheries
PROJECT LEADER: Mr P Matthew (consultant)

366 Search for evidence within subsurface sediments of the occurrence of previous aggregations of crown of thorns starfish on Heron Island Reef, southern Great Barrier Reef
PROJECT LEADERS: Dr P Flood (University of New England), Dr E Frankel (University of Technology, Sydney)

367 Distribution of skeletal elements of crown of thorns starfish in surface sediments, central Great Barrier Reef
PROJECT LEADERS: Assoc Prof R A Henderson (Geology, James Cook University), Dr P Moran (Australian Institute of Marine Science)

368 Search for evidence within surface sediments of the occurrence of previous aggregations of crown of thorns starfish on Capricorn and Pompey Reefs
PROJECT LEADERS: Dr P Flood (University of New England), Dr E Frankel (University of Technology, Sydney)

427 Search for evidence within subsurface sediments of the occurrence of previous aggregations of crown of thorns starfish on reefs of the Howick Group, northern Great Barrier Reef
PROJECT LEADERS: Dr P Flood (University of New England), Dr E Frankel (University of Technology, Sydney)

428 Set up public display of aspects of the crown of thorns starfish phenomenon
PROJECT LEADER: Great Barrier Reef Aquarium

429 Develop interactive crown of thorns display based on Apple Macintosh
PROJECT LEADER: Mr B Kettle (Marine Bio Logic)

430 Monitoring juvenile crown of thorns starfish on Green Island Reef
PROJECT LEADER: Mr D Fisk (Reef Research and Information Services)

431 The impact of the crown of thorns starfish *Acanthaster planci* on the community structure, demography and morphology of massive corals
PROJECT LEADER: Mr L DeVantier (Australian institute of Marine Science)

432 Discussions with Prof. Masahi Yamaguchi in Japan re culturing work
PROJECT LEADER: Mr J Keesing (Australian Institute of Marine Science)

433 Crown of thorns starfish in the Whitsunday region - surveys and controls
PROJECT LEADERS: Mr R van Woesik,
Mr A Steven (James Cook University)
Mr L. De Vantier (Australian Institute of Marine Sciences)



Its close proximity to Cairns has made Green Island a popular site for Reef visitors for many years.

APPENDIX G
MEMBERSHIP OF THE CONSULTATIVE COMMITTEE, 1 JULY 1989

Ms Liz Bourne *Queensland Conservation Council*

Mr Bob Bygott *Queensland Department of Primary Industries*

Mr Jim Ferguson *Commonwealth Department of the Arts, Sport, the Environment, Tourism and Territories*

Mr Tony Fontes *Barrier Reef Diving Services, Airlie Beach; Dive Tourism Association of Australia*

Mr Merv Gibson *Aboriginal Coordination Council; Hope Vale Council*

Ald Keith Goodwin *Mayor of the City of Cairns*

Mr Denis Griffith *Queensland Sport and Recreational Fishing Council*

Mr Eddie Hegerl *Australian Littoral Society; Queensland Conservation Council*

Dr Tor Hundloe *Institute of Applied Social Research and School of Australian Environmental Studies, Griffith University*

Mr Bill Kehoe *Queensland Commercial Fishermen's Organisation*

Mr Graeme Kelleher, AM *Great Barrier Reef Marine Park Authority*

Mr Jim McEvoy *Queensland Department of Environment and Conservation*

Mr Gordon McKauge *Far Northern Queensland Promotions Bureau Tourism Task Force*

Mr Andre Maestracci, MBE *Association of Marine Park Tourism Operators; South Molle and Hook Island Enterprises*

Dr Helene Marsh *Zoology Department, James Cook University of North Queensland*

Mr Jim Wallace *Quicksilver Connections; Association of Marine Park Tourism Operators.*

APPENDIX H
MEMBERS OF ADVISORY COMMITTEES

Crown of Thorns Starfish Advisory Review Committee (COTSARC)

Professor John Swan (Chairman)
Immediate past Chairman of the Australian Marine Science and Technology Advisory Committee (AMSTAC)

Dr J T Baker, *Director, Australian Institute of Marine Science*

Dr C Birkeland *Marine Laboratory, University of Guam*

Professor R Carter *Geology Department, James Cook University of North Queensland*

Associate Professor R Endean *Zoology Department, University of Queensland*

Mrs P Hayles *Marketing Servicing Manager, Hayles Magnetic Island Pty Ltd (representing the tourist industry)*

Dr T Hundloe *Director, Institute of Applied Environmental Research, Griffith University*

Dr R A Hynes *Director, Central Services, Department of Environment and Conservation*

Mr G Kelleher *Chairman, Great Barrier Reef Marine Park Authority*

Dr J Lucas *Zoology Department, James Cook University of North Queensland*

Mr R Pearson *Director, Fisheries Research Branch, Queensland Department of Primary Industries*

Senator Margaret Reynolds *(representing Queensland in the Australian Senate)*

Professor K P Stark *Chairman, Department of Civil and Systems Engineering, James Cook University of North Queensland*

Associate Professor P Sale *School of Biological Sciences, University of Sydney*

Professor M Yamaguchi *Department of Marine Sciences, University of the Ryukyus, Japan*

Crown of Thorns Starfish Research Committee (COTSREC)

Professor J M Swan (Chairman)

Dr J T Baker, OBE *Director, Australian Institute of Marine Science*

Dr P J Moran *Australian Institute of Marine Science*

Mr G Kelleher *Chairman, Great Barrier Reef Marine Park Authority*

Dr L P Zann *Senior Project Officer, Great Barrier Reef Marine Park Authority*

Professor R M Golding *Vice Chancellor, James Cook University of North Queensland*

Mr R Pearson *Executive Officer, Division of Fisheries and Wetlands Management, Queensland, Department of Primary Industries*

Dr K Sainsbury *Principal Research Scientist, Division of Fisheries Research, CSIRO*

Water Quality Advisory Committee

Dr D W Kinsey (Chairman) *Great Barrier Reef Marine Park Authority*

Dr P Bell *Department of Chemical Engineering University of Queensland*

Mr J Brodie *Australian Centre for Tropical Aquatic Research James Cook University of North Queensland*

Professor D Connell *Australian School of Environmental Studies Griffith University*

Dr M Furnas *Australian Institute of Marine Science*

Dr G Jones *Townsville and Thuringowa Water Authjority*

Dr J Hansen *School of Biological Sciences University of Sydney*

Mr Andrew Moss *Policy and Technical Support Queensland Department of Environment and Conservation*

Ms C Baldwin (Program Coordinator) *Great Barrier Reef Marine Park Authority*

Dr W Craik *Great Barrier Reef Marine Park Authority*

Dr L Zann *Great Barrier Reef Marine Park Authority*

Great Barrier Reef Marine Park Management Coordinating Committee

Dr D W Kinsey (Chairman) *Great Barrier Reef Marine Park Authority*

Mr J McEvoy *Queensland Department of Environment and Conservation Division of Conservation, Parks and Wildlife*

Mr A Regan *Department of Harbours and Marine*

Mr G Bradley *Queensland Treasury*

Advisory Committee on Research into the Effects of Fishing in the Great Barrier Reef Region

Dr D W Kinsey, (Chairman) *Great Barrier Reef Marine Park Authority*

Dr M Pichon *Australian Institute of Marine Science*

Dr B Hill *CSIRO*

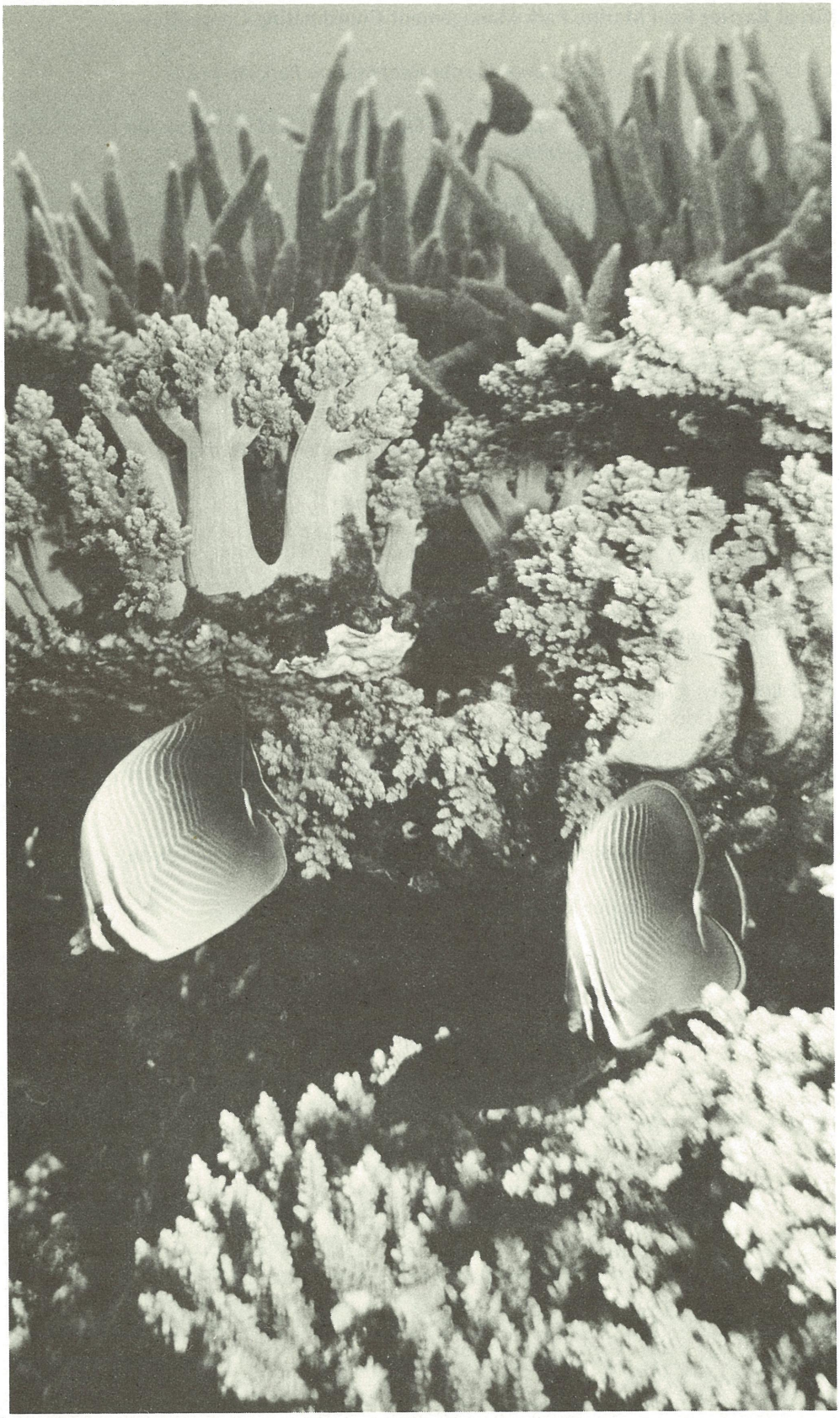
Mr S Spencer *Queensland Fish Management Authority*
Mr P Neville for (part of the year)

Mr T Loveday *Queensland Commercial Fishermens Organisation*
Mr P Conaty for (part of the year)

Mr G McCormack (official 1988-89) *Queensland Department of Primary Industries*
Dr B Pollock and Mr B Pearson (all attended various meetings)

Mr J McEvoy *Queensland Department of Environment and Conservation*

Dr W Craik *Great Barrier Reef Marine Park Authority*
Secretariat



Butterfly fish swim among the corals that provide both their food and shelter. (Photo: G. Matthew)

APPENDIX I
FINANCIAL STATEMENTS

GREAT BARRIER REEF MARINE PARK AUTHORITY
Financial Statements for the Year Ended 30 June 1989

In our opinion, the accompanying Statement of Activity (General Operations), Profit and Loss Statement (Great Barrier Reef Aquarium), Statement of Assets and Liabilities, Statement of Capital Accumulation and Statement of Sources and Applications of Funds, have been prepared in accordance with the 'Guidelines for the Form and Standard of Financial Statements of Commonwealth Undertakings' approved by the Minister for Finance, as amended from time to time, and:

(a) show fairly the operations of the Authority for the financial year ended 30 June 1989 and the financial position as at 30 June 1989; and

(b) at the date of this certificate there are reasonable grounds to believe that the Authority will be able to pay its debts as and when they fall due.

DONALD W KINSEY
Executive Officer

GRAEME KELLEHER
Chairman

21/10/89

GREAT BARRIER REEF MARINE PARK AUTHORITY
GENERAL OPERATIONS
STATEMENT OF ACTIVITY for the year ended 30 June 1989

	Notes	1988-89 $	1987-88 $
REVENUE			
Parliamentary appropriations			
- Operational		**6,196,000**	6,863,000
- Capital		**70,000**	100,000
- Commonwealth contribution to day-to-day management	2(a)(b)	**2,366,000**	1,877,500
		8,632,000	8,840,500
Payments from Queensland for day-to-day management	2(a)(c)	**1,829,750**	1,400,000
Interest		**201,632**	165,592
Miscellaneous Revenue	3	**473, 198**	92,380
Net gain on disposal of non-current assets		-	6,656
		11,136,580	10,505,128
Less: Transfer to Capital Accumulation	4	**297,858**	560,994
Total operating revenue		**10,838,722**	9,944,134
EXPENSES			
Expenses of the Authority	6	**163,987**	137,155
Expenses of the Great Barrier Reef Consultative Committee	7	**12,094**	23,385
Executive and Secretariat		**489,516**	424,812
Administration		**725,430**	1,021,292
Research and Monitoring		**1,436,588**	1,490,825
Planning		**1,048,532**	890,204
Education/Information		**1,137,734**	968,424
Park Management		**1,399,502**	1,311,471
Bad Debts written off		**156**	-
Net loss on disposal of non-current assets	5	**1,192**	-
Payments to Queensland for day-to-day management	2	**4,199,000**	3,298,000
Total operating expenses		**10,613,731**	9,565,568
Excess of operating revenues over operating expenses		**224,991**	378,566
Less Provisions and other unfunded charges			
Depreciation of non-current assets	1(c)	**255,529**	219,676
Long service leave		**(1,398)**	127,896
Annual leave		**26,926**	9,121
Superannuation	1(h)	**52,607**	14,634
Leave fares		**1,444**	3,281
Surplus/(Deficiency) before Extraordinary Item		**(110,117)**	3,958
Extraordinary Item			
Write off day-to-day management assets	8	-	(790,762)
Surplus/(Deficiency) transferred to Statement of Capital Accumulation		**(110,117)**	(786,804)

The accompanying notes form an integral part of these financial statements.

GREAT BARRIER REEF MARINE PARK AUTHORITY GREAT BARRIER REEF AQUARIUM
PROFIT AND LOSS STATEMENT for the year ended 30 June 1989

	Notes	1988-89 $	1987-88 $
REVENUE			
Admission fees		**1,611,818**	1,690,792
Interest		**31,310**	12,146
Other revenue		**56,490**	6,680
		1,699,618	1,709,618
Shop Sales		**283,066**	212,559
Less: Cost of goods sold	9	**159,441**	127,374
Gross profit from shop trading		**123,625**	85,185
Total revenue & gross profit from shop trading		**1,823,243**	1,794,803
EXPENSES			
Curatorial Operations			
- technical services		**66,118**	163,700
- materials and sundries		**58,069**	62,647
Interpretative Facilities		**89, 594**	35,870
Marketing/Promotions		**99,040**	111,535
Shop Management and Services		**83,081**	81,111
Repairs and Maintenance			
- building		**2,550**	289
- plant		**38,507**	19,690
Administrative Services			
- salaries and allowances		**715,501**	602,595
- property services		**419,212**	375,897
- general services		**90,290**	105,509
Bad Debts Written Off		**629**	-
Interest Paid		**42,000**	-
Depreciation of non-current assets	1(c)	**429,267**	416,523
Long service leave		**21,403**	(27,364)
Annual leave		**21,747**	(382)
Superannuation	1(h)	**12,779**	3,484
Leave fares		**1,404**	1,234
Total expenses		**2,191,191**	1,952,338
Net result from commercial activities transferred to Statement of Capital Accumulation		**(367,948)**	(157,535)

The accompanying notes form an integral part of these financial statements.

GREAT BARRIER REEF MARINE PARK AUTHORITY
STATEMENT OF CAPITAL ACCUMULATION for the year ended 30 June 1989

	Notes	1988-89 $	1987-88 $
Balance from previous years		**8,834,440**	9,534,205
Funds used for capital works and services	4		
- General Operations		**297,858**	560,994
Bicentennial funds used for capital purposes		-	114,527
Donated assets	12	**18,254**	34,053
Donations used for capital purposes	13	-	(15,000)
Repayment of GBR Aquarium establishment costs	10	-	(450,000)
Transfer of surplus/(deficiency) from Statement of Activity			
- General Operations		**(110,117)**	(786,804)
Transfer of net result from Profit and Loss Statement			
- Great Barrier Reef Aquarium		**(367,948)**	(157,535)
Accumulated Capital as at 30 June 1989		**8,672,487**	8,834 ,440
Net Assets from Statement of Assets and Liabilities		**8,672,487**	8,834,440

The accompanying notes form an integral part of these financial statements.

GREAT BARRIER REEF MARINE PARK AUTHORITY
STATEMENT OF ASSETS AND LIABILITIES as at 30 June 1989

	Notes	General Operations 1988-89 $	1987-88 $
ASSETS			
Current Assets			
Cash at bank		**946,849**	612,619
Cash on hand		-	-
Stock on hand		-	-
Advances and prepayments		**13,693**	47,681
Debtors	18	**41,685**	44,464
Total Current Assets		**1,002,227**	704,764
Non-current Assets	20		
Furniture, fittings & displays		**86,561**	71,032
Office machines		**87,614**	91,372
Audio-visual & photographic		**21,516**	27,999
Marine & diving		**16,340**	14,080
Computer hardware		**495,130**	442,451
Computer software		**207,346**	214,240
Scientific and technical		**36,106**	43,883
Vehicles and mobile plant		**8,996**	13,218
Other plant and equipment		**3,055**	3,273
Aquarium contents		-	-
Improvements to leasehold property			
- Aquarium building		-	-
- Fixtures and fittings		**254,547**	254,617
Work in progress		-	-
Total Non-current Assets		**1,217,211**	1,176,165
Total Assets		**2,219,438**	1,880,929
LIABILITIES			
Current Liabilities			
Establishment cost repayment	10	-	-
Creditors		**265,483**	207,422
Accrued expenses		**65,651**	52,525
Provision for long service leave	1(g)	**8,736**	19,769
Provision for annual leave		**296,749**	269,824
Provision for leave fares		**35,620**	34,176
Total Current Liabilities		**672,239**	583,716
Non-current Liabilities			
Establishment cost repayment	10	-	-
Provision for long service leave	1(g)	**441,142**	431,506
Provision for superannuation		**67,241**	14,634
Total Non-Current Liabilities		**508,383**	446,140
Total Liabilities		**1,180,622**	1,029,856
NET ASSETS		**1,038,816**	851,073

The accompanying notes form an integral part of these financial statements.

Great Barrier Reef Aquarium		Total	
1988-89	1987-88	**1988-89**	1987-88
$	$	**$**	$
22,717	59,126	**969,566**	671,745
2,300	500	**2,300**	500
66,872	86,681	**66,872**	86,681
-	-	**13,693**	47,681
79,807	139,397	**121,492**	183,861
171,696	285,704	**1,173,923**	990,468
191,341	199,150	**277,902**	270,182
6,328	8,120	**93,942**	99,492
235,080	224,100	**256,596**	252,099
3,107	4,239	**19,447**	18,319
24,443	6,248	**519,573**	448,699
479	-	**207,825**	214,240
31,310	31,147	**67,416**	75,030
9,502	12,036	**18,498**	25,254
455,540	467,961	**458,595**	471,234
343,256	342,526	**343,256**	342,526
6,760,078	7,091,713	**6,760,078**	7,091,713
-	-	**254,547**	254,617
-	399	-	399
8,060,464	8,387,639	**9,277,675**	9,563,804
8,232,160	8,673,343	**10,451,598**	10,554,272
90,000	90,000	**90,000**	90,000
63,487	120,912	**328,970**	328,334
21,394	22,789	**87,045**	75,314
1,763	-	**10,499**	19,769
63,886	42,139	**360,635**	311,963
7,540	6,136	**43,160**	40,312
248,070	281,976	**920,309**	865,692
270,000	360,000	**270,000**	360,000
64,156	44,516	**505,298**	476,022
16,263	3,484	**83,504**	18,118
350,419	408,000	**858,802**	854,140
598,489	689,976	**1,779,111**	1,719,832
7,633,671	7,983,367	**8,672,487**	8,834,440

GREAT BARRIER REEF MARINE PARK AUTHORITY
STATEMENT OF SOURCES AND APPLICATIONS OF FUNDS for the year ended 30 June 1989

	Notes		1988-89 $	1987-88 $
SOURCES OF FUNDS				
Funds from Operations	19			
General Operations:				
Inflows of funds from operations				
Parliamentary Appropriations				
- Operational		6,196,000		6,863,000
- Day-to-day management		2,366,000		1,877,500
Proceeds from the sale of non-current assets		90		17,900
Other Revenue		674,830		257,972
Queensland payment for day-to-day management		1,829,750		1,400,000
		11,066,670		10,416,372
Less outflows of funds from operations		10,561,997		9,558,531
			504,673	857,841
Great Barrier Reef Aquarium				
Inflows of funds from operations				
Sales revenue - shop		123,625		85,185
Admission fees		1,611,818		1,690,792
Other revenue		87,800		18,826
Proceeds from the sale of non-current assets		1,457		13,798
		1,824,700		1,808,601
Less outflows of funds from operations		1,700,785		1,562,667
			123,915	245,934
Capital Appropriation			70,000	100,000
Reduction in Assets				
Current Assets				
Cash on hand		-		1,313
Stock on hand		19,809		-
Advances and Prepayments		33,988		16,993
Debtors		62,369		200,341
		116,166		218,647
Non-current Assets				
Disposal of non-current assets		2,739		25,043
Work in progress		399		-
			119,304	243,690
Increase in Liabilities				
Current Liabilities				
Creditors		636		-
Accruals		11,731		28,433
			12,367	28,433
Total sources of funds			830,259	1,475,898

APPLICATIONS OF FUNDS

		1988-89 $	1987-88 $
Increase in Assets			
Current Assets			
Cash at bank	**297,821**		555,991
Cash on hand	**1,800**		-
Stock on hand	-		35,787
	299,621		591,778
Non-current Assets			
Furniture, fittings & display equipment	**34,081**		19,483
Office machines	**24,485**		31,865
Audio-visual & photographic equipment	**23,141**		33,992
Marine and diving equipment	**7,046**		6,051
Computer equipment	**208,867**		208,930
Computer software	**22,050**		12,870
Scientific & technical equipment	**5,846**		1,269
Vehicles and mobile plant	-		39,450
Other plant and equipment	**21,007**		11,771
Aquarium contents	**730**		26,692
Improvements to leasehold property			
- Aquarium building	**22,610**		76,298
- Fixtures and fittings	**13,688**		260,555
Work in progress	-		399
	383,551		729,625
		683,172	1,321,403
Reduction in Liabilities			
Current Liabilities			
Creditors	-		126,239
Non-current Liabilities			
Establishment cost repayment	**90,000**		
		90,000	
Long service leave paid		**57,087**	28,256
Total applications of funds		**830,259**	1,475,898

The accompanying notes form an integral part of these financial statements.

NOTES TO AND FORMING PART OF THE FINANCIAL STATEMENTS
for the year ended 30 June 1989

1. ACCOUNTING POLICIES

The following accounting policies have been adopted in the preparation of the accounts.

(a) Accounts Format

The accounts of the Authority have been prepared in accordance with:

- the 'Guidelines for the Form and Standard of Financial Statements of Commonwealth Undertakings', as applicable to "Other Undertakings", issued by the Department of Finance in June 1989; and

- accounting standards issued by Australian accounting bodies (where applicable).

(b) Historical Cost Convention

These accounts have been prepared on the basis of the historical cost convention and except where stated do not show the current cost of specific assets and the impact of such costs on operating results.

(c) Depreciation of Non-current Assets

Capitalisation occurs on all items which cost more than $400. Non-current assets are depreciated by the straight line method over their estimated useful lives.

Great Barrier Reef Aquarium -

The Great Barrier Reef Aquarium building was funded as a Commonwealth-State Bicentennial project, through the Great Barrier Reef Wonderland Association Incorporated. The Aquarium is sub-leased by the Authority from the Association for a period of 75 years. Under the terms of the sub-lease agreement the Authority is responsible for the replacement of the Aquarium building as necessary and for all expenses and revenue in relation to its operation. Consequently, the value of the Aquarium building has been taken up as an asset in the Authority's accounts and is being amortised over 25 years, which is the estimated useful life of the building.

Establishment costs associated with the Great Barrier Reef Aquarium were funded through the Great Barrier Reef Wonderland Association (from the Bicentennial grant and public donations) and the Authority (from appropriation and revenue). Such establishment costs have been capitalised and will be written off over an appropriate period.

The base stock of marine life, sand, coral and water in the Great Barrier Reef Aquarium has been included under non-current assets as a non-depreciable item. Additions to these stocks are added to the value of the base stock at cost. Future stock replacement costs will be treated as operating expenses.

The base stock of audio visual displays at the Great Barrier Reef Aquarium has been included under non-current assets as a non-depreciable item. Additions to these stocks are added to the value of the base stock at cost. Future stock replacement costs will be treated as operating expenses.

(d) Advances to Consultants

Under the terms of certain contracts with consultants, payments are made in advance. Except for expenditure on assets which, under the terms of the contract become the property of the Authority from the date of acquisition, such advances are fully expensed in the year of payment. Where ownership of assets vests in the Authority on the completion of a contract, such assets are brought on charge by the Authority at that time, at their written down value and depreciated over their remaining useful life.

(e) Day-to-day Management Advances

Except for expenditure on fixtures upon land owned by or under the direct control of the Commonwealth or the Authority, advances to the Queensland Department of Environment and Conservation for day-to-day management are fully expensed in the year of payment (refer Note 2 for details of the day-to-day management item).

(f) Stock on Hand
Goods for resale have been valued at the lower of cost or net realizable value.

(g) Provision for Long Service Leave
Provision has been made for pro-rata entitlements of all staff who have at least five years eligible service at balance date.

The current liability represents the estimated value of long service leave that is proposed to be taken by staff during the succeeding year.

(h) Superannuation
Staff of the Authority are employed under the Public Service Act and prior to 1988-89 there had been no obligation in respect of employer contributions to the Commonwealth Superannuation Scheme.. However as the Authority is required to manage the Great Barrier Reef Aquarium on a cost recovery basis, employer superannuation contributions for Aquarium employees became payable from 1 July 1988.

Provisions reflect the June 1986 National Wage Case Decision which provided for new or additional superannuation benefits. The Commonwealth Government agreed to an additional 3 % overall benefit with 1.5% commencing from 1 January 1988 and the balance no later than 1 January 1989. The 1987-88 comparative figures are based on the 1.5% interim benefit whilst the 1988-89 figures are based on the full 3% benefit.

2. DAY-TO-DAY MANAGEMENT OF THE GREAT BARRIER REEF MARINE PARK

(a) Principles agreed between the Commonwealth and Queensland Governments relating to the day-to-day management of the Great Barrier Reef Marine Park provide for:

- the Queensland Department of Environment and Conservation (Q.DEC) to carry out the day-to-day management of the Great Barrier Reef Marine Park, subject to the Authority
- the Commonwealth to fund 100% of an initial capital works program (in the first three years or so) required to establish management of the Great Barrier Reef Marine Park on a sound basis; other capital costs (i.e. the post-initial program) of day-to-day management of the Great Barrier Reef Marine Park to be shared equally between the two Governments
- the Commonwealth and Queensland to meet in equal shares the recurrent costs for day-to-day management in relation to the Great Barrier Reef Marine Park (which may include Queensland national parks or Queensland marine parks, the use or management of which would or might affect the Great Barrier Reef Marine Park)
- moveable property funded pursuant to the arrangements to be used and administered by Queensland; proceeds from the sale of any such moveable property are paid into the day-to-day management account to offset Commonwealth/Queensland contributions on a 50:50 basis.
- fixed assets funded pursuant to the arrangements to be used by Queensland and administered by the Government (or Authority) which owns or controls the land on which the fixture is located.
- expenditure on day-to-day management to be in accordance with an annually agreed program
- the Authority to administer funds provided by the Commonwealth and Queensland for these purposes.

(b) The Commonwealth appropriation for day-to-day management was made up of:

		1988-89	1987-88
		$	$
(i)	Recurrent and Post-Initial Capital Programs	**1,829,750**	1,400,000
(ii)	Initial Capital Works	**536,250**	477,500
		2,366,000	1,877,500

(c) The total Queensland contribution to day-to-day management was $1,829,750 in 1988-89 compared with $1,400,000 in 1987-88.

(d) Financial statements for day-to-day management which have been prepared by Q.DEC and audited by the Queensland Auditor General are at Note 21.

3. MISCELLANEOUS REVENUE

Miscellaneous revenue comprises the following:	$
. Payments from the GBR Aquarium for employer superannuation contributions and establishment loan repayment	198,559
. Monies for industry funded monitoring and baseline studies	149,288
. Sale of Authority education/information materials	61,325
. Revenue from other miscellaneous sources	64,026
	473,198

4. TRANSFER TO CAPITAL ACCUMULATION

The funds transferred direct from Revenue to the Capital Accumulation Account represent capital expenditure.

5. SALE OF NON-CURRENT ASSETS

Gross proceeds from the sale of non-current assets were $1,547. The book value of non-current assets sold was $2,739. These amounts include $1,457 for items sold by the GBR Aquarium to the Authority.

6. EMOLUMENTS PAID TO AUTHORITY MEMBERS

The item "Expenses of the Authority" includes remunerations paid in accordance with the Remuneration Tribunal Determination to:

	1988-89	1987-88
	$	$
Chairman	**69,570**	70,330
Part-time members	**8,357**	7,269

7. EXPENSES OF GREAT BARRIER REEF CONSULTATIVE COMMITTEE

This item includes sitting fees paid to part-time members in accordance with the Remuneration Tribunal Determination. In 1988-89 payments totalled $5,215 compared with $6,678 in 1987-88.

8. EXTRAORDINARY ITEM

On 10 May 1988 the Commonwealth, State of Queensland and the Authority signed a Deed of Agreement which provided for the use and disposal of moveable and immoveable property acquired or otherwise made available for the purposes of day-to-day management. Under the new arrangements, moveable and immoveable property is managed and administered by Queensland. Immoveables (fixtures) are administered by the party which owns or controls the land on which the fixture is situated.

The Authority therefore needs to account only for those fixtures on land owned or controlled by the Commonwealth. It has excised initial capital assets now managed and administered by Queensland. Since the Agreement is deemed to operate from 1 August 1980, the assets have been excised at their written down value as at 30 June 1987 ($698,878). The value (at cost) has always been taken up in the notes to the Q.DEC statements - Note 21 refers.

The amount also includes unexpended initial capital works funds held by the Q.DEC as at 30 June 1987.

9. COST OF GOODS SOLD

This item represents the cost of goods sold through the Great Barrier Reef Aquarium Shop as follows:

	1988-89	1987-88
	$	$
Opening Stock	**86,681**	50,894
Purchases	**139,632**	163,161
Less: Closing Stock	**66,872**	86,681
	159,441	127,374

10. REPAYMENT OF GREAT BARRIER REEF AQUARIUM ESTABLISHMENT COSTS

The Department of Finance has determined that establishment costs of $450,000 appropriated in 1986-87 are recoverable. It is expected that this amount, plus interest at the long term bond rate, will be repaid over five years in the form of instalments deducted from Authority appropriation for 1988-89 onwards and made up from Aquarium revenue.

11. INSURANCE

The Authority has a policy of self-insurance for its general operations but has commercial insurance cover for the operation of the Great Barrier Reef Aquarium.

12. DONATED ASSETS

During the financial year a number of items of plant and equipment were donated to the Aquarium. These items were taken up into the assets records at their estimated value as at the date of acquisition.

13. DONATIONS USED FOR CAPITAL PURPOSES

During the 1986-87 financial year $1,100,000 was taken up as donations to the Aquarium for capital purposes. Of this amount, $15,000 which had been pledged, was not realised and was funded from Aquarium revenue.

14. RESOURCES PROVIDED FREE OF CHARGE TO THE AUTHORITY

The following resources were provided free of charge to the Authority and accordingly are not reflected as expenses in the Statement of Activity:

		1988-89	1987-88
		$	$
(a)	External audit services (the Australian Audit Office audits the Authority's accounts)	**35,600**	47,000
(b)	Coastal Surveillance	**191,000***	-

* In accordance with revised coastal surveillance arrangements for 1988-89, an amount of $191,000 was allocated to the Australian Customs Service to pay for surveillance within the Great Barrier Reef Region north of Cairns.

15. LEASES

(a) The aggregate amount of operating leases contracted for and outstanding as at 30 June 1989 is $2,547,454. These leases are for office accommodation and the discharge will be:

	1988-89	1987-88
	$	$
Within one year	**338,842**	350,859
In the second year	**315,516**	338,842
Within a three to five year period	**946,548**	946,548
Later than five years	**946,548**	1,262,063
	2,547,454	2,898,312

(b) The Authority sub-leases the Great Barrier Reef Aquarium building from the Great Barrier Reef Wonderland Association Incorporated for a nominal amount payable if demanded.

16. COMMITMENTS FOR CAPITAL EXPENDITURE

The Authority has outstanding commitments for capital expenditure totalling $215,484 as at 30 June 1989. The full amount is payable within a period of not later than one year.

17. CONTINGENT LIABILITIES

The Authority is unaware of any contingent liability existing as at 30 June 1989.

18. DEBTORS

	1988-89	1987-88
	$	$
Debtors	**121,492**	183,861
Less: Provision for doubtful debts	-	-
Total Debtors	**121,492**	183,861

19. RECONCILIATION OF NET FUNDS FROM OPERATIONS

Net Funds from operations is reconciled with amounts transferred from the Statement of Activity, General Operations and Profit and Loss Statement, Great Barrier Reef Aquarium to Capital Accumulation as follows:

	General Operations		Aquarium	
	1988-89	1987-88	**1988-89**	1987-88
	$	$	**$**	$
Net flow from Operations	**452,849**	839,559	**118,652**	235,960
Less Amount transferred direct from operations to Capital Accumulation	**227,858**	460,994	-	
	224,991	378,565	**118,652**	235,960
Less Expenses				
- Depreciation of non-current assets	**255,529**	219,676	**429,267**	416,523
- Long service leave	**(1,398)**	127,896	**21,403**	(27,364)
- Annual leave	**26,926**	9,121	**21,747**	(382)
- Leave fares	**1,444**	3,281	**1,404**	1,234
- Superannuation	**52,607**	14,634	**12,779**	3,484
- Extraordinary Item	-	790,762	-	-
Transfer to Capital Accumulation	**(110,117)**	(786,804)	**(367,948)**	(157,535)

20. NON-CURRENT ASSETS

Details of accumulated depreciation are:

	Non-Current Assets at Cost	Accumulated Depreciation	Net Written Down Value
	$	$	$
Furniture, fittings & displays	366,354	88,452	277,902
Office machines	198,589	104,647	93,942
Audio-visual & photographic	311,101	54,505	256,596
Marine & diving equipment	45,114	25,667	19,447
Computer hardware	1,006,971	487,398	519,573
Computer software	297,425	89,600	207,825
Scientific & technical	119,663	52,247	67,416
Vehicles & mobile plant	36,604	18,106	18,498
Other plant & equipment	532,154	73,559	458,595
Aquarium contents	343,256	-	343,256
Improvements to leasehold property			
- Aquarium building	7,492,950	732,872	6,760,078
- Fixtures & fittings	278,248	23,701	254,547
- Work in progress	-	-	-
	11,028,429	1,750,754	9,277,675

The detailed breakup of non-current assets between the Authority's General Operations and the Great Barrier Reef Aquarium is as follows:

	Cost		Accumulated Depreciation		Written Down Value	
	1988-89 $	1987-88 $	**1988-89** $	1987-88 $	**1988-89** $	1987-88 $
GENERAL OPERATIONS						
Furniture, fittings & displays	**145,635**	120,796	**59,074**	49,764	**86,561**	71,032
Office machines	**188,062**	163,577	**100,448**	72,205	**87,614**	91,372
Audiovisual & photographic	**52,409**	51,845	**30,893**	23,846	**21,516**	27,999
Marine & diving	**39,454**	32,408	**23,114**	18,328	**16,340**	14,080
Computer hardware	**975,996**	773,370	**480,866**	330,919	**495,130**	442,451
Computer software	**296,898**	275,375	**89,552**	61,135	**207,346**	214,240
Scientific & technical	**76,812**	76,812	**40,706**	32,929	**36,106**	43,883
Vehicles & mobile plant	**23,935**	23,935	**14,939**	10,717	**8,996**	13,218
Other plant & equipment	**7,178**	7,179	**4,123**	3,906	**3,055**	3,273
Improvements to leasehold property						
. Fixtures & fittings	**278,248**	342,564	**23,701**	87,947	**254,547**	254,617
Total General Operations	**2,084,627**	1,867,861	**867,416**	691,696	**1,217,211**	1,176,165
GBR AQUARIUM						
Furniture,fittings & displays	**220,719**	214,565	**29,378**	15,415	**191,341**	199,150
Office machines	**10,527**	10,527	**4,199**	2,407	**6,328**	8,120
Audiovisual & photographic	**258,692**	236,115	**23,612**	12,015	**235,080**	224,100
Marine & diving	**5,660**	5,660	**2,553**	1,421	**3,107**	4,239
Computer hardware	**30,975**	8,380	**6,532**	2,132	**24,443**	6,248
Computer software	**527**	-	**48**	-	**479**	-
Scientific & technical	**42,851**	37,005	**11,541**	5,858	**31,310**	31,147
Vehicles & mobile plant	**12,669**	12,669	**3,167**	633	**9,502**	12,036
Other plant & equipment	**524,976**	503,968	**69,436**	36,007	**455,540**	467,961
Aquarium contents	**343,256**	342,526	-	-	**343,256**	342,526
Improvements to leasehold property						
. Aquarium building	**7,492,950**	7,470,340	**732,872**	378,627	**6,760,078**	7,091,713
. Work in progress	-	399	-	-	-	399
Total GBR Aquarium	**8,943,802**	8,842,154	**883,338**	454,515	**8,060,464**	8,387,639
	11,028,429	10,710,015	**1,750,754**	1,146,211	**9,277,675**	9,563,804

21. DEPARTMENT OF ENVIRONMENT AND CONSERVATION
GREAT BARRIER REEF MARINE PARK
STATEMENT OF RECEIPTS AND PAYMENTS FOR THE YEAR ENDED 30 JUNE , 1989

	1987-88 $		1988-89 $	$
		The balance at 1 July comprised -		
		Recurrent Costs		
*	380	Salaries and Wages	**10,823**	
*	2,013	Operating Costs	**28,243**	
		Capital Works and Services		
	91,884	Initial Program	**136,544**	
*	(22,462)	Post Initial Program	**(21,450)**	
				154,160
		Receipts for the year were -		
		Recurrent Costs		
*	1,313,664	Salaries and Wages	**1,727,100**	
*	1,305,452	Operating Costs	**1,617,294**	
		Capital Works and Services		
	498,000	Initial Program	**489,000**	
*	180,884	Post Initial Program	**365,606**	
	31,508	Disposal of Moveables	**52,190**	
	-	Fines (Note 4)	**3,082**	
	3,329,508	Total Receipts (Note 1)		**4,254,272**
		From which the following payments were made -		
		Recurrent Costs		
	1,303 221	Salaries and Wages	**1,708,275**	
	1,279,222	Operating Costs (Note 2)	**1,565,276**	
*		Capital Works and Services		
	453,340	Initial Program (Note 3)	**403,003**	
	179,872	Post Initial Program (Note 3)	**307,099**	
	31,508	To GBRMPA for Moveables sold	**21,460**	
	-	To GBRMPA for Fines (Note 4)	**3,082**	
	3,247,163	Total Payments		**4,008,195**
	82,345	Resulting in an excess of receipts over payments of -		**246,077**
		Leaving a balance at 30 June comprising -		
		Recurrent Costs		
*	10,823	Salaries and Wages	**29,648**	
*	28,243	Operating Costs	**80,261**	
		Capital Works and Services		
	136,544	Initial Program	**222,541**	
*	(21,450)	Post Initial Program	**37,057**	
	-	Balance of proceeds from sale of Moveables (Note 5)	**30,730**	
	154,160			**400,237**

* Previous year's figures have been altered to afford valid comparison after allowing for transfers within the Annual Program.

NOTES TO AND FORMING PART OF THE ACCOUNTS

(A) Statement of Accounting Policies

(a) Basis of Accounts
The accounts have been prepared on a cash basis, consistent with the basis applied in the previous financial year and in the form as indicated in the Agreement.

(B) Statement of Significant Items Outside the Ambit of the Statement

1. Current Assets/Liabilities
Current assets and liabilities stood at a normal level at the beginning and end of the year.

2. Contingent Assets/Liabilities
There were no known contingent assets or liabilities of a significant nature at 30 June 1989.

3. Statement of Capital Assets (at cost) as at 30 June 1989.

		Funded by Commonwealth (cumulative from 1 July 1981)		Funded by Queensland (cumulative from 1 July 1981)	
		1988	1989	1988	1989
		$	$	$	$
	Buildings and infrastructure	875,881	1,113,354	53,742	91,772
*	Vessels and associated equipment	479,902	617,965	89,524	119,800
**	Vehicles	189,886	243,576	58,651	109,455
***	Other plant and equipment	682,201	763,003	45,572	67,987
		2,227,870	2,737,898	247,489	389,014

* The cumulative figure for Commonwealth funded vessels in 1987-88 has been reduced by $36,509. This represents the cost price of the vessel Protector II that was disposed of during that year.

** The cumulative figure for Commonwealth funded vehicles in 1987-88 has been reduced by $33,204. This represents the cost price of vehicles and accessories disposed of during that year.

The cumulative figure for Commonwealth funded vehicles in 1988-89 has been reduced by $31,049. This represents the cost price of vehicles and accessories disposed of during that year.

The cumulative figures for joint Commonwealth/State funded vehicles in 1988-89 have been reduced by $12,023 each. This represents the cost price of vehicles disposed of during the year.

*** The cumulative figure for Commonwealth funded Other Plant and Equipment in 1988-89 has been reduced by $3,454. This represents the cost price of computer equipment disposed of during the year.

The assets categories have been reclassified from those previously published due to reclassification of Departmental accounts.

Stocktakes were carried out by officers of the Department of Environment and Conservation and equipment on hand balances with official equipment cards.

Explanatory notes	1987-88 $	**1988-89 $**
Note 1. Receipts during the year were provided from the following sources:		
Commonwealth Government:		
Recurrent 50%		
Salaries and Wages	656,832	**863,550**
Operating Costs	652,726	**808,647**
Capital Works and Services:		
Initial Program 100%	498,000	**489,000**
Post-Initial Program 50%	90,442	**182,803**
	1,898,000	**2,344,000**

	1987-88 $	1988-89 $
Queensland Government:		
Recurrent 50%		
Salaries and Wages	656,832	**863,550**
Operating Costs	652,726	**808,647**
Capital Works and Services:		
Post-Initial Program 50%	90,442	**182,803**
	1,400,000	**1,855,000**
Disposal of Moveables	31,508	**52,190**
Fines -	–	**3,082**
Total Receipts	3,329,508	**4,254,272**
Note 2. Operating Costs:		
Superannuation	135,462	**163,700**
Payroll tax	64,930	**84,645**
Travel and subsistence	136,624	**141,240**
Office services and field support	274,743	**317,076**
Office requisites	45,833	**31,436**
Staff development and requisites	32,349	**32,839**
Project requisites and consultancies	197,039	**208,656**
Vessel and vehicle maintenance and running	190,792	**301,146**
Vessel charter	24,160	**60,539**
Aircraft charter	177,290	**223,999**
	1,279,222	**1,565,276**
Note 3. Capital Works and Services - Initial Program		
Buildings and infrastructure	169,589	**199,442**
Vessels and associated equipment	71,050	**107,786**
Vehicles	41,292	**33,935**
Audio-visual and interpretive equipment	56,929	**4,490**
Field equipment and radios	25, 319	**41,613**
Office, workshop and laboratory equipment	89,161	**15,737**
	453,340	**403,003**
- Post-Initial Program		
Buildings and infrastructure	103,700	**76,061**
Vessels and associated equipment	23,931	**60,553**
Vehicles	39,108	**125,654**
Audio-visual and interpretive equipment	5,605	**4,000**
Field equipment and radios	2,590	**26,103**
Office, workshop and laboratory equipment	4,938	**14,728**
	179,872	**307,099**
	633,212	**710,102**

Note 4. These monies are transferred to GBRMPA as such fines are under the control of the Authority.

Note 5. These monies are held in the Departmental Suspense Account awaiting transfer to the GBRMPA and do not form part of the available funds for this financial year.

CERTIFICATE OF THE QUEENSLAND DEPARTMENT OF ENVIRONMENT AND CONSERVATION

We have prepared the foregoing annual financial statement in relation to the operation of the Great Barrier Reef Marine Park as required by the relevant Agreements dated 10 May 1988 between the Commonwealth and Queensland Governments and the Great Barrier Reef Marine Park Authority and certify as follows -

(a) the foregoing financial statement and appended notes to and forming part thereof are in agreement with the accounts and records of the Queensland Department of Environment and Conservation;

(b) the receipt and expenditure of monies were in accordance with the approved programs and in accordance with aforementioned agreements and previous draft agreements executed between the Commonwealth and Queensland Governments with regard to day-to-day management and control and ownership of assets;
and

(c) in our opinion -

(i) the prescribed requirements in respect of the establishment and keeping of accounts have been complied with in all material respects; and

(ii) the foregoing annual financial statement has been drawn up so as to present a true and fair view, on a basis consistent with that applied in the financial year last preceding, of the transactions of the Queensland Department of Environment and Conservation in relation to the Great Barrier Reef Marine Park for the period 1 July 1988 to 30 June 1989 and of the financial position as at the close of that year.

C Nicolson,
Assistant Director (Financial Services)
Department of Environment and Conservation

S Wilcox
Under Secretary
Department of Environment and Conservation

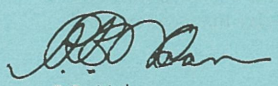
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CERTIFICATE OF THE AUDITOR-GENERAL OF QUEENSLAND

I certify that, in my opinion:

(1) the foregoing Statement of Receipts and Payments and appended notes for the period 1 July 1988 to 30 June 1989 are based on proper accounts and records and are in agreement with those accounts and records; and

(2) the expenditure of moneys was in accordance with the relevant Agreements dated 10 May 1988 between the Commonwealth and Queensland Governments and the Great Barrier Reef Marine Park Authority in respect of financial assistance for the Great Barrier Reef Marine Park.



P.B. Nolan
Auditor-General

19/10/89

APPENDIX J
AUDITOR-GENERAL'S REPORT

27 October 1989

The Honourable the Minister for Arts,
Sport, the Environment, Tourism and Territories
Parliament House
CANBERRA ACT 2600

Dear Minister

GREAT BARRIER REEF MARINE PARK AUTHORITY
AUDIT REPORT ON FINANCIAL STATEMENTS

Pursuant to sub-section 63M(2) of the Audit Act 1901, the Authority has submitted for audit report, financial statements for the year ended 30 June 1989. These comprise a Statement of Activity, Profit and Loss Statement, Statement of Assets and Liabilities, Statement of Capital Accumulation, Statement of Sources and Applications of Funds, and Notes to and forming part of the financial statements and Certificate of the Chairman and the Executive Officer.

The statements have been prepared in accordance with the policies outlined in Note 1 to the Accounts and in accordance with the Guidelines for the Form and Standard of Financial Statements of Commonwealth Undertakings approved by the Minister for Finance. The statements are in the form approved by the Minister for Finance pursuant to sub-section 63M(1) of the Act. A copy of the financial statements is enclosed for your information.

The statements have been audited to conformance with the Australian Audit Office Auditing Standards.

In accordance with sub-section 63M(2) of the Act, I now report that the financial statements are in agreement with the accounts and records of the Authority, and in my opinion:

(a) the statements are based on proper accounts and records, and
(b) the receipt and expenditure of moneys, and the acquisition and disposal of assets by the Authority during the year have been in accordance with the Act.

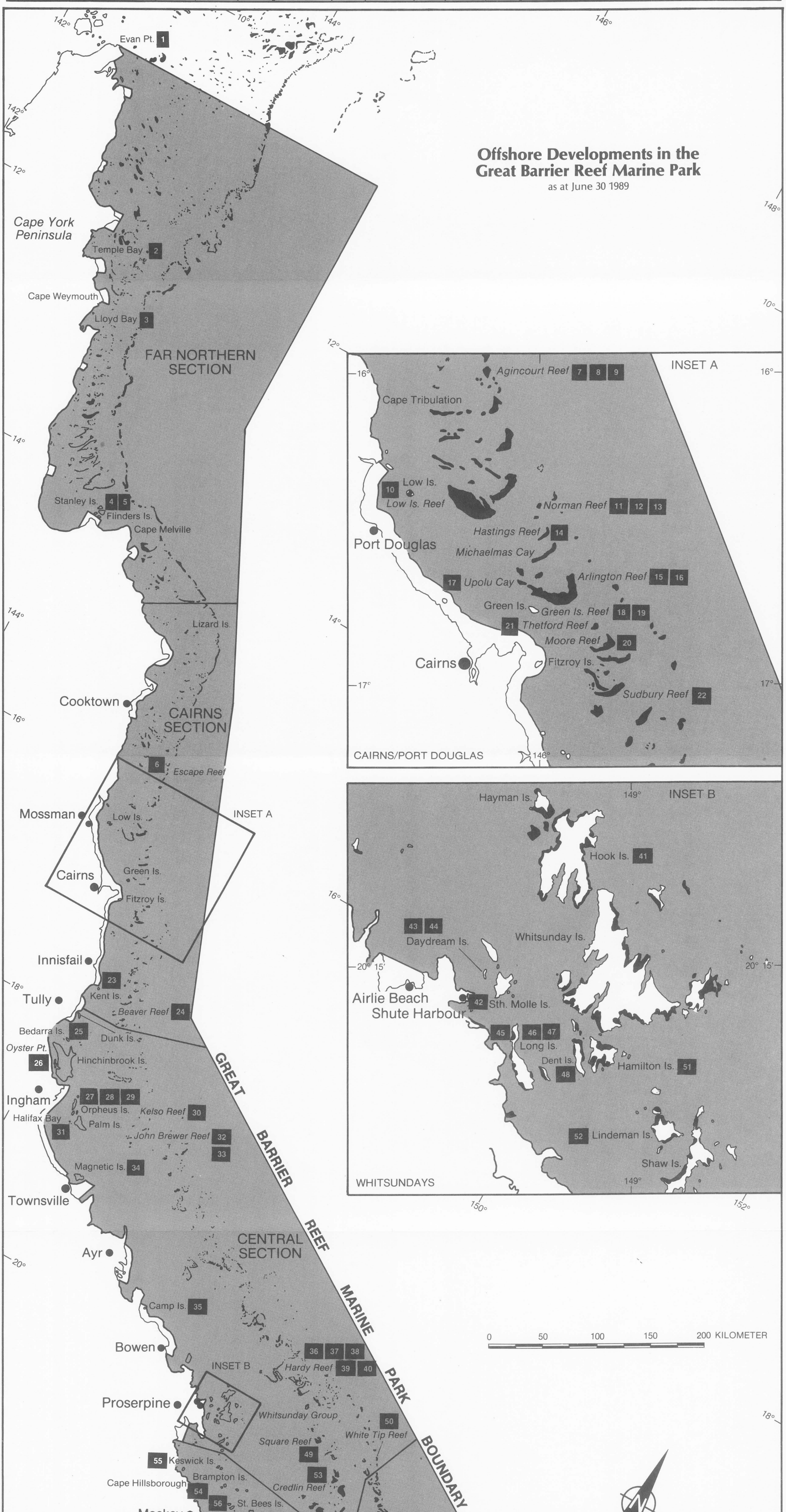
Yours sincerely
Australian Audit Office

M.J. Jacobs
First Assistant Auditor-General

Figure 2

DESCRIPTION OF HARDWARE	STATUS	NAME OF OPERATION	LOCATION SECTION	LOCATION AREA	WITHIN G.B.R.M.P.
1 BARGE RAMP	Approved	Australian Airlines Resorts P.L.	FAR NORTHERN	EVAN POINT	Partly
2 SPACE PORT	Proposed	Cape York Space Agency	FAR NORTHERN	TEMPLE BAY	Partly
3 MARINA WORKS	Proposed	Farndale Pty Ltd	FAR NORTHERN	LLOYD BAY	Partly
4 FUEL BARGE	Approved In Place	Mr F Markert Frank Markert PL	FAR NORTHERN	OWEN CHANNEL	Wholly
5 PEARL FARM	Approved In Place	MrW Coutts Barrier Pearls PL	FAR NORTHERN	OWEN CHANNEL	Wholly
6 PONTOON	Proposed	Halstead	CAIRNS	ESCAPE REEF	Wholly
7 PONTOONS & SEMI-SUBS	Approved In Place	Mr J Wallace Quicksilver Connections PL	CAIRNS	AGINCOURT REEF	Wholly
8 PONTOON & SEMI-SUB	Approved In Place	Mr J Wallace Quicksilver Connections PL	CAIRNS	AGINCOURT REEF	Wholly
9 PONTOON	Approved In PLace	Mr W Rittson Helijet Nth Qld	CAIRNS	AGINCOURT REEF	Wholly
10 PONTOON	Approved In Place	Mr J Wallace Quicksilver Connections PL	CAIRNS	LOW ISLES REEF	Wholly
11 PONTOON	Approved In Place	Mr R Slotter Jayrow Heiicopters PL	CAIRNS	NORMAN REEF	Wholly
12 PONTOON & SEMI-SUB	Approved In Place	Mr W Hepburn Great Adventures P	CAIRNS	NORMAN REEF	Wholly
13 PONTOON & SEMI-SUB	Approved In Place	Mr W Hepburn Great Adventures PL	CAIRNS	NORMAN REEF	Wholly
14 PONTOON	Proposed	Mr B Sheeran Stay & Play PL	CAIRNS	HASTINGS REEF	Wholly
15 PEARL FARMING	Proposed	Mr A De Fina Aust Pearl Management PL	CAIRNS	ARLINGTON REEF	Wholly
16 UNDERWATER TOURIST COMPLEX	Proposed	Mr A De Fina Tinsail PL	CAIRNS	ARLINGTON REEF	Wholly
17 UNDERWATER RESTAURANT	Proposed	Mr A Wildenborg Aquatic Holdings Aust L	CAIRNS	UPOLU CAY	Wholly
18 UNDERWATER OBSERVATORY	Proposed Upgrading	Mr W Hepburn Great Adventures PL	CAIRNS	GREEN ISLAND REEF	Wholly
19 UNDERWATER OBSERVATORY	Approved In Place	Mr W Hepburn Great Adventures PL	CAIRNS	GREEN IISLAND REEF	Wholly
20 PONTOON	Approved In Place	Mr W Hepburn Great Adventures PL	CAIRNS	MOORE REEF	Wholly
21 PONTOON	Proposed (Lapsed)	Mr G Gray Sunseeker Cruises PL	CAIRNS	THETFORD REEF	Wholly
22 CLAM FARM	Approved In Place	Mr B Marcum Pacific	CAIRNS	SUDBURY REEF	Wholly
23 CLAM & PEARL FARM	Prosposed	Mr B Marcum Pacific Clam Ltd	CAIRNS	KENT ISLAND	Wholly
24 PONTOON & SEMI-SUB	Approved (Removed)	Mr J Lerve Avago Holdings PL	CAIRNS	BEAVER REEF	Wholly
25 JETTY	Approved In Place	Australian Airlines Resort PL	CENTRAL	BEDARRA ISLAND	Partly
26 MARINA OWRKS	Proposed	Tekin Australia	CENTRAL	OYSTER POINT	Partly
27 PONTOON	Approved In Place	Mr B Condon Pure Pleasure Cruises	CENTRAL	ORPHEUS ISLAND	Wholly
28 PONTOON & JETTY	Approved In Place	Mr B Condon Pure Pleasure Cruises	CENTRAL	ORPHEUS ISLAND	Partly
29 ACCESS RAMP	Approved (Lapsed)	James Cook University	CENTRAL	ORPHEUS ISLAND	Partly
30 PONTOON	Proposed	Mr B Condon Pure Pleasure Cruises	CENTRAL	KELSO REEF	Wholly
31 ORE OFFLOADING FACILITY	Proposed	Dallhold Nickel Management PL	CENTRAL	HALIFAX BAY	Partly
32 HOTEL & PONTOONS	Approved (Removed)	Barrier Reef Holdings Ltd	CENTRAL	JOHN BREWER R	Wholly
33 PONTOON	Approved In Place	Townsville Helicopter Serv	CENTRAL	JOHN BREWER R	Wholly
34 MARINA	Approved	Magnetic Keys Ltd	CENTRAL	MAGENTIC ISLAND	Partly
35 JETTY BOAT HARBOUR U/WATER CABLE	Approved	Mr B Judge	CENTRAL	CAMP ISLAND	Wholly
36 PONTOON & SEMI-SUB	Approved In Place	Mr F Collins Sth Molle Is. Resort	CENTRAL	HARDY REEF	Wholly
37 PONTOON & SEMI-SUB	Approved In Place	Mr K Williams Hamilton Is. Enterprise PL	CENTRAL	HARDY REEF	Wholly
38 PONTOON	Approved In Place	Mr K Williams Hamilton Is. Enterprise PL	CENTRAL	HARDY REEF	Wholly
39 PONTOON	Approved In Place	Mr K Williams Hamilton Is Enterprise PL	CENTRAL	HARDY REEF	Wholly
40 PONTOONS & WALKWAYS	Proposed	Mr K Williams Hamilton Is. Enterprise PL	CENTRAL	HARDY REEF	Wholly
41 UNDERWATER OBSERVATORY	Approved In Place	Mr F Collins Sth Molle Is. Resort	CENTRAL	HOOK ISLAND	Wholly
42 MARINA	Approved	Mr B Katchor Shute Harbour Marina PL	CENTRAL	KATCHOR'S COVE	Partly
43 MARINA	Approved	Pivot Group	CENTRAL	DAYDREAM ISLAND	Partly
44 WATER PIPELINE	Approved	Pivot Group	CENTRAL	DAYDREAM ISLAND	Partly
45 MARINA	Proposed	Eastpac Property Ltd	CENTRAL	LONG ISLAND	Partly
46 PONTOON	Approved	Contiki Whitsunday Resort	CENTRAL	LONG ISLAND	Wholly
47 JETTY	Approved In Place	Mytarc Pty Ltd	CENTRAL	LONG ISLAND	Partly
48 HARBOUR	Proposed	Mr K Williams Hamilton Is. Enterprise PL	CENTRAL	DENT ISLAND	Partly
49 PONTOON	Approved In Place	Mr K Williams Hamilton Is. Enterprise PL	CENTRAL	SQUARE REEF	Wholly
50 PONTOON	Approved In Place	Mr K Williams Hamilton Is. Enterprise PL	CENTRAL	WHITE TIP REEF	Wholly
51 HARBOUR	Approved	Mr K Williams Hamilton Is. Enterprise PL	CENTRAL	HAMILTON ISLAND	Partly
52 PONTOON	Approved In Place	Lake Hewson Ltd	CENTRAL	LINDEMAN ISLAND	Wholly
53 PONTOON	Approved In Place	Mr B Dean Roylen Cruises PL	CENTRAL	CREDLIN REEF	Wholly
54 CRUISE BOAT FACILITY	Proposed	C Hills-Borough Co	MACKAY CAPRICORN	CAPE HILLS-BOROUGH	Partly
55 MARINA	Proposed	Mr J Kelly Keswick I.s. Past. Comp.	MACKAY CAPRICORN	KESWICK ISLAND	Partly
56 TOURIST RESORT DEVELOPMENT	Proposed	St Bees Is. Pty Ltd	MACKAY CAPRICORN	ST BEES IS.LAND	Partly
57 UNDERWATER OBSERVATORY	Approved In Place	Mr L Coleman Vibrosaun	MACKAY CAPRICORN	MIDDLE ISLAND	Wholly
58 PONTOON	Approved In Place	Mr R Stendrup P & O Resorts PL	MACKAY CAPRICORN	WISTARI REEF	Wholly
59 REEF WALKWAY	Proposed	Mr R Stendrup P & O Resorts PL	MACKAY CAPRICORN	WISTARI REEF	Wholly
60 JETTY & BOAT HARBOUR	Approved In Place	Mr R Stendrup P & O Resorts PL	MACKAY CAPRICORN	HERON ISLAND	Partly
61 AQUARIUM INTAKE PIPE	Approved In Place	Uni of Queensland	MACKAY CAPRICORN	HERON ISLAND	Partly
62 HOTEL & FACILITIES	Approved	Mr C Soars Fitzroy Reef Resort	MACKAY CAPRICORN	FITZROY REEF	Wholly
63 PONTOON	Approved In Place	L.Musgrave Is. Cruise	MACKAY CAPRICORN	LADY MUSGRAVE ISLAND	Wholly
64 PONTOON	Proposed	Mr Broadbent Gt Barrier Reef Tours	MACKAY CAPRICORN	LADY MUSGRAVE ISLAND	Wholly
65 PONTOON	Proposed (Refused)	Mr Newby	MACKAY CAPRICORN	LADY MUSGRAVE ISLAND	Wholly

FOOTNOTE:
There are a number of jetties that were established before the zoning of the Great Barrier Reef Marine Park and have not been included in this Table.



AUSTRALIA

GREAT BARRIER REEF MARINE PARK AUTHORITY

ANNUAL REPORT 1988 - 1989

CORRIGENDUM:

1. **PAGE 40:**
   Line 17: Omitted, Add "corals spawned in November and December 1988 on exactly the same nights".
   Line 21: Omitted, Add "water quality in the reef tank was maintained at levels similar to the midshelf".
   Line 37: Insert, "awareness and understanding of the Great Barrier Reef and the Marine Park concept:".
2. **PAGE 41:**
   Line 4: Omitted, Add "use it wisely".
3. **PAGE 47:**
   Table 5: "some % incorrectly placed refer table below".

Table 5

REPRESENTATION OF EQUAL EMPLOYMENT OPPORTUNITY GROUPS WITHIN SALARY LEVELS 30 JUNE 1989

SALARY	TOTAL NO. OF STAFF		WOMEN		NESB	ATSI	PWD	STAFF WITH EEO DATA
	1988	1989	1988	1989				
Below $20 466 (to top ASO1)	8	**19**	7 (87%)	**11** (58%)	0	2 (18%)	2 (18%)	11
$20 467-$23 504 (to top ASO2)	23	**19**	14 (61%)	**14** (74%)	1 (14%)	0	1 (14%)	7
$23 505-$29 082 (to top ASO4)	12	**16**	10 (83%)	**13** (81%)	2 (14%)	0	2 (14%)	14
$29 083-$37 033 (to top ASO6)	32	**33**	9 (28%)	**9** (27%)	0	0	0	26
$37 034-$46 370 (to top ASO8)	17	**16**	4 (23%)	**4** (25%)	1 (10%)	0	0	10
SES & above	2	**2**	0	**0**	0	0	0	2
Unpaid leave	4	**6**	2 (50%)	**2** (33%)	0	0	0	6
TOTAL	98	**111**	46 (47%)	**53** (48%)	4 (5%)	2 (3%)	5 (7%)	76